The Builder.

No. CXXVI.

SATURDAY, JULY 5, 1845.

WE stated in the middle of last April, when speaking of the necessity which existed for a museum illustrative of our national architecture, that Mr. Wyse was about to bring the subject before Parliament, and we urged all those who felt how valuable such a collection would be, to petition the legislature and otherwise assist the endeavour as far as they might be able.*

The attempt has since been made, and we are sorry to say has failed. Following these remarks, our readers will find a report of the proceedings in the House of Commons on the occasion, and will see that a proposal of an address to her Majesty, that she would be pleased to establish a museum of national antiquities, and appoint a commission for the conservation of national monuments, was NEGATIVED WITHOUT A DIVISION.

Mr. Wyse introduced the motion eloquently, as he always does, but we think the honourable gentleman did not display his usual tact in selecting the mode and moment in which it was brought forward. It came upon the artistical public unexpectedly; no evidence was sought, no opportunity was given for the expression of opinion upon it. Mr. Wyse feeling, and justly, that his case was a strong one, relied solely upon it, and asked no aid. He seems even to have neglected recognized evidence that was before him, and to have given up a foundation already prepared on which the new structure might have been raised. We refer to the report from Mr. Hume's Committee on National Monuments and Works of Art, appointed in 1841, which contains important evidence on the value of ancient monuments, the injuries to which they are exposed, and the necessity that exists for protection.

The Chancellor of the Exchequer's objection to the general question was singularly weak. He said it should be remembered that abroad matters of this sort were the object of the care of the government, but that in England custom left them to the tender mercies of private individuals: in other words, because the English Government never had given any sort of attention to our national structures or to works of art, they never *were* to do so, although the result of this non-interference was seen to be most disastrous and unwise.

In France, ten years ago, M. Guizot urged to his sovereign that the history of the arts ought to occupy a place in the minds of those who regulated the social and political state of a nation,—and why is it less true here than there? "Perhaps," continued he, "no study reveals to us more clearly the social state and true spirit of past centuries than that of their monuments, religious, civil, public, and domestic:—than that of the varied ideas and laws which presided at their construction; the study, in short, of all the works, and all the varieties, of architecture, which is at once the commencement and the *resumé* of all the arts."

We hope that Mr. Wyse will renew his motion next session, and that in the meantime the architectural and artistical public will express their views on the subject. Before leaving the House of Commons, we are led to mention briefly a conversation which took place there a few nights since, on the grant for repairs and other expenses connected with public buildings being proposed. Dr. Bowring wished to know if there were any hope of improving the external appearance of the National Gallery. If any proposition were made for that purpose, he was sure that all parties would cordially concur in supporting it. (Cheers.) Mr. Warburton trusted that the right hon. baronet would be prepared in the course of next year, as the cheapest mode of obtaining a good collection ofpic tures, to recommend the erection of a suitable building to contain the great national collection. (Hear.)

Sir R. Peel was quite willing to admit that we had thrown away the most magnificent site in Europe. No one could tell until he stood on the steps of the National Gallery what a magnificent site it possessed. He thought they would do little good, however, in now laying out money in ornamenting the exterior of that building. They might, it was true, make some improvement in the cupola, and they might make the little turrets somewhat more beautiful than at present; but still, that would not contribute to what was, after all, the main point in the construction of a gallery,—the mode of lighting the pictures. It was, no doubt, a matter of great consideration. (Hear, hear.)

Mr. Hawes wished to put in one word for the modern school of painting by our own countrymen. Their works, he believed, if wisely selected, might form a collection which would compare with any gallery that had ever existed. Lord Mahon suggested the propriety of procuring a collection of portraits of eminent men distinguished in the history of this country. Such a collection might exercise a most beneficial influence upon the rising generation, whilst it could be procured probably at little expense.

It is so seldom that our legislators talk about art, as legislators, that we must not omit reference to it when they do.

* See page 181, *ante*.

MUSEUM OF NATIONAL ANTIQUITIES.

ON Friday, the 27th ult., Mr. Wyse, pursuant to notice, rose to "move an address to her Majesty, that she will be graciously pleased to give directions for the establishment and maintenance of a Museum of National Antiquities, in conjunction with a commission for the conservation of national monuments." He did not complain either of the application or results of the expenditure dedicated to the purchase of Grecian or Roman works of art; what he wanted was, the foundation and maintenance of a gallery for the preservation of those monuments and specimens, either of skill or feeling, which characterized the arts and history of this country. It was only by a juxtaposition of the monuments of art connected with the different epochs, from the earliest to the latest, that they could either duly estimate the past or produce for the future. It was a cardinal mistake to call on artists to produce historical works, without the means of cultivating their powers, and ascertaining the spirit of the age they had to represent. These means ought to be afforded in a liberal and ample manner, worthy of so great a nation. Hitherto our artists had but small means; although their enthusiasm had been great, their education had been limited. Much labour had therefore been misapplied, and a large expenditure of time and money forced upon them; and thus not only individuals but the nation had been deprived of opportunities of excellence which a little previous arrangement might have secured. There was no place provided for the reception of British antiquities. Throughout the country a gradual dilapidation of public monuments was going on. In their architecture alone many of the finest old buildings were injured by neglect or injudicious repairs; many specimens of their best artists no longer existed; and, where they had been repaired, they had too often witnessed the destructive results of the "beautifying" of churchwardens and others who had no knowledge or feeling of art, and whose labours exhibited a spirit of Vandalism existing in the midst of a Christian and civilized community. He mentioned the neglect with which many specimens of old church architecture had been treated, among them St. Saviour's Southwark, and the Cathedral of Durham; and in Ireland, Glendalough and Cashel. He quoted an extract from the essay of Mr. Petrie, on the Round Towers of Ireland, in which that gentleman states, that he was induced to undertake his researches solely from an ardent desire to rescue the antiquities of his native country from unmerited oblivion, and from a hope that, by making them generally known, some stop might be put to the wanton destruction of those remains, which threatened to lead to their total annihilation. The same efforts should be made to preserve the ecclesiastical and historical monuments of the kingdom, and he was sure there was no one who would not co-operate with the government for the purpose, if the government was disposed to assist them. He adverted to the destruction that fell on the monuments and antiquities of France during the tempest of the revolution; but the nation had at last become conscious of the misfortune. Like ourselves, the people could complain of seeing their old buildings dilapidated, or injudiciously repaired. Many of the monuments of the country were disappearing from the soil, and remains of great value, in the precious metals, or in painted glass, were being transferred to the stranger. In a memoir of the Committee of arts and monuments it was stated that the Cathedral of Nôtre Dame, at Paris, was sadly shattered, that in very recent times some of its beautiful imagery and carvings had been broken or taken away, even the ancient inscription which recorded the date of its erection was almost effaced; and that it was made the place where the children of the neighbourhood assembled to amuse themselves, to the great injury of the fabric. To remedy these evils a provisionary school was instituted for the purpose of awakening attention to the subject of ancient art; the plan became more developed, and, to the honour of France, it was not long before the Government exerted themselves in the matter. The present minister of that country took up the question zealously, and the committee of historical monuments and arts was appointed. The church of St. Martin des Champs, one of the oldest in Paris, was selected as a repository for monuments and specimens of ancient art. In consequence of the exertions of this committee a new spirit had been aroused in France for the illustration of every period of the progress of Christianity both in that country and throughout Europe; and there was a general desire among the people to give the fullest effect to the intentions of the Government. He hoped that not only would the historical remains of France be preserved from further injury by this committee, but that all Europe would be benefited by the liberality with which their museum was thrown open to every class of strangers. These exertions were not confined to France alone; similar efforts were making in Belgium and Germany. He reminded the House that for the decoration of the new Houses of Parliament they were going to resort to Christian art, dealing with the poetry and history, not of the pagans, but of a Christian people. Was he not justified, then, in calling on them to imitate the example of France, and to found a museum of national art, combined with a commission for preventing the further decay and destruction of national monuments? He was confident the public would assist them, nay, that public liberality would outstrip their own. He knew more than one gentleman who would willingly present their collections to the public if the Government would make them accessible, by providing a place in which they might be deposited. These collections were of great value, as they were not acquired at auctions, but by a long life of research and

labour. Such were the collections of Mr. Britton, and those in the studios of many other artists and antiquaries. He believed that in founding such a museum they would be supported by a general feeling out of doors that it would not be a lavish expenditure of public money, but one in harmony with their past and present efforts, one they were called on to make by the present position of the arts in this country, one to which they were invited by the general voice of Europe. The hon. gentleman concluded by moving an address to her Majesty to appoint a commission to inquire into the best means of preserving the national monuments and antiquities.

Mr. Hawes seconded the motion. Mr. Bernal said the inquiry called for by the hon. member was absolutely necessary. There was, unfortunately, too great an apathy in this country with regard to such subjects as these, because they had not the interest of personality and strong political feeling. If the state of the Treasury did not allow the right hon. baronet to give the public money for the promotion of these objects, a public subscription ought to be opened for the purpose. We were the only country in the world which left these matters to private enterprise and taste. At the Louvre there was a large collection of middle-age relics, but we had no such public collection. He thought that the motion of his hon. friend was somewhat too confined—that it ought to extend to antiquities generally, which were analogous to and coeval with the antiquities of this country,—for instance, those which were to be found in Brittany. There ought to be an institution where the student could see the dresses, weapons, costumes, and antiquities of past ages. It was true that there was the Geological Museum, but it was confined in its objects. And at the British Museum there were vast collections of most interesting objects, which, however, either from want of room, or want of good will on the part of the conductors of the institution, were not properly accessible. He was satisfied that if a national museum were once established, private individuals would immediately contribute to it. Such an institution would have the best effect on the manners and morals of the people.

The Chancellor of the Exchequer said, of course it was out of the question to expect any co-operation from the Government in the course of the present session, after the supplies had been voted. With regard to the general question, it should be remembered that abroad these public institutions were the object of the care of the Government, while in England custom left the advancement of such objects to private individuals. He believed that a greater number of works of art and of antiquity could be found in this country than were to be seen in foreign countries, and he doubted very much whether the collection of all these into one institution would be so advantageous as to leave them as they were. With reference to the appointment of a commission, he thought that for such a purpose it was open to considerable objection; at all events until after very great consideration. — Mr. Borthwick thought it extremely desirable that increased care should be bestowed upon the preservation of the religious and ecclesiastical monuments of this country, even to the comparative neglect of those of pagan and profane antiquity. The state of our ecclesiastical architecture was such as to call for much greater attention, though greater expense should thus be incurred than had hitherto been devoted to it. The hon. gentleman adverted at some length to the exaction of fees from persons visiting cathedral structures, and strongly expressed his disapproval of the practice.

Mr. Ewart said it was a mistake to suppose that the right hon. gentleman (Mr. Wyse) wished to have existing monuments despoiled; he only desired to have them concentrated in one establishment, instead of mouldering in various public edifices. He entirely concurred in the view which had just been taken in reference to cathedrals. Forming, as cathedrals did, part of the history and religion of the country, it was the duty of the Government to do all in its power to secure their being open to the public without any charge whatever.

Mr. Wyse having replied, the motion was put and negatived without a division.

THE FUTURE DEVELOPMENT OF STYLE IN ECCLESIASTICAL ARCHITECTURE.

As the history of former nations is being illumined by the labours of their successors, much that we were priding ourselves upon as new, is proved to have originated in time, more or less gone by. The wisdom of the Egyptians is placed on evidence, more convincing than assertions of the classics, and the learning which did exist in Europe during the middle ages is made manifest, shewing that that period was not entirely one of darkness and ignorance. Indeed, we are gradually discovering, how unsafe it is to form general opinions supported on the evidence of only isolated facts; and may shortly be compelled to allow, that the standard of knowledge has been placed, in this century, at too great an elevation. But it is not the less obvious, that the discoveries at this epoch are of such a nature, as would at one time have seemed too wonderful for mortal agency, and subjected their authors to terrors of the dungeon and the inquisition. Still, the age is essentially a matter of fact age, one more inclined to forget that "the race is not always to the swift," than to pursue the path, which is laborious but certain. It is an age of anomalies, feverishly excitable as to the future, and probing into the records of the past; an age in which advancing science, and the study of its former state find equal votaries. The Anglo-Saxon scholar, and the learned in modern languages, the archæologist, and the professor of science, meet in every circle, and excite a like interest in their labours. But the future object is pursued with too slight knowledge of previous attempts, and too little consideration as to the best course; whilst the antiquarian pursuit is still one of mere observation and curiosity, less than reasoning and deduction from examples, towards their bearing upon present time. To such or other singularities, we must attribute the peculiar state, in which the art of architecture finds itself, for perhaps the first time in the history of the world, a state alike irreconcilable with the desire for progressive improvement, and with any useful application of previous discovery, a state often commented upon, but yet unaltered. It is still held to be an axiom, that architecture is the only art, which has reached its perfection, and is now no longer progressive. The works of the ancients we must admire and study, but not deviate from. Our Gothic architecture must be the architecture of former centuries, when the style is said to have been in unceasing search of novelty, yet never attaining the desired excellence, and to have expired from mere inanition.

It is assumed, that our churches should be, if not copies, at least such as might have been erected at a particular period, and might be mistaken for works of that date. But why should we say that the intellectual vigour in architecture is dead? Did Shakspeare and Milton exhaust all the fountains of a sister art, and are not the stars of heaven, and the flowers of earth as pregnant with associations which conduce to poetry, as before Dryden, Pope, or Byron wrote? And though art has known, in many countries, its bright and glorious days, — can this century, before all others, deem that architecture has no future being, a century, in which the whole range of architectural history is beheld, and understood with a clearness before unknown, which possesses all the powers of investigation, yet deems a good result beyond attainment, and in which the resources of science are not wanting to produce, as the works of architecture were never executed before. And in gothic architure, which had the power to conceive, and the principles, but sometimes lacked the means to carry out, we have, in the study of ancient models, and in inherent resources, the latent skill to produce works, in design more wonderful than the cathedrals of Cologne or Beauvais, and in stability far surpassing those structures. The means for studying the principles of the mediæval architects are around us, the knowledge of the chemist, and the geologist, with that in every other department of science and art is, for almost the first time, open to us, and shall architecture remain insensible to these advantages? With so many inventions, available for the construction and decoration of buildings, it would appear that the art is rather about to commence, than to have reached the height, from which there is no advancement.

But there are some who, without broaching an opinion as to the future progress of other styles, feel certain that gothic architecture at least is not to be improved upon, yet prescribe that style for imitation. The writer in a late number of this journal, who has done us the honour to notice some of our previous remarks, seems inclined to such opinions, and we can only wish that his pen could be enlisted in what we deem a sounder line of argument. Doubtless, existing examples convey more instruction, and excite a larger amount of pleasure in the beholder, when constructed in a mixture of styles, harmoniously blended, than when they are in the style of one particular date; but we cannot consider, that a modern work should shew any such discrepancy, any more than we advocate the present system of exclusive imitation. It seems to us, that the value of an example is to be estimated, firstly, in reference to its utility as a model, which along with other examples may suggest an entirely new combination, and secondly, to its interest as an object of antiquarian analysis, illustrative of the time in which it was erected, and the people from whom it originated. The first object is the pursuit of the artist, the second that of the antiquary. The antiquarian object is not to be neglected by the architect, but in estimating the value of a model, it is necessary to guard against an assumption, that because the rust of ages has invested the fabric with an interest, which we do not take the trouble to examine to its source, it is possible by an imitation to create a like interest. We omit the consideration, that the modern pile will no longer be an exponent of its age, and will therefore be deficient in precisely that value, which the original possessed, whilst, in general rank as a work of art, the original may be inferior. The universal principles of art hold the highest place, to which the investigations of antiquity are but the stepping-stones; and in aiming at the wrong goal we miss both. The heads of Edward III. and Queen Philippa when used in a modern church (vide *ante*, p. 183) serve to mark the imitation of a particular period, but seem to us illustrations of the improper application of mediæval art. So the fleur-de-lis of the Tudor period, no longer a national badge, and the letters, which even a Gothic architect cannot always read, may be equally reprehensible.

With all the interest, which we feel in the antiquarian and historical part of architecture, and all our admiration of Gothic architecture in its former state, our desire is not lessened for a style of art, which we can truly call "our own." If modern be as fertile in invention as ancient days, the barrier, which excludes that invention from our art, should be insurmountable. That excellence is not to be attained by a neglect of existing examples, as some would argue, but is to be gained by careful examination of those remains, and from full conception of the principles which guided their erection. An opposite opinion would be founded on an illogical basis, assuming that all executed works, whether good or bad, could give no instruction, and that the art must recommence a long and experimental course. The main reason of the present imitative state of taste is, that the purely antiquarian possesses an undue influence over the art, to which in the pursuit of architecture, it should be entirely subservient.

The infusion of new and beautiful features into Italian architecture, which, consistent with the *animus* of the art, should yet give an entirely new character to that style, would give the name of the architect a place, amongst the greatest in its days of splendour. Why should invention in modern Gothic architecture not be deemed an equal merit? We must guard against the possible mistake, that the study of ancient models is unnecessary. Whether it be, that the principles of art are difficult of discovery, or that we acquire a love of certain forms, and desire their reproduction, or that, without the chain of rules, our fancy would be apt to draw us in search of novelty into the singular and ridiculous, it is true that rules, deduced from the examination of examples, are never so necessary as in the infancy of the art, or the pupilage of its professors. We deem this the infancy of a new style of art; and that Gothic architecture was not exhausted in the sixteenth century; that,

through the combined exertions of individuals in the systematic examination of ancient models, a new style of Gothic architecture may arise, characteristic of this age, and not inferior to any preceding. As the Gothic architecture of England at the Reformation, so the architecture of Italy declined at the establishment of the Christian religion, and at last appeared to be extinct. (Vide Review of d'Agincourt's Histoire de l'Art, &c. p. 290 *ante*). With the Lombard style prevailing in the north, Byzantine in the east, a distinct style at Pisa, and the infusion of Arabian, and of pointed architecture from Germany, there would be many to doubt the re-birth of a national style, and to affirm, that the Grecian stock had been exhausted in "the eternal city." But, from that degenerate taste in the decline of the empire, sprang the marvels of the thirteenth and fourteenth centuries in the north of Europe, whilst the architects of Italy, applying the principles of the recently discovered works of Vitruvius, exhibited in the models of ancient art in Rome, to the wants of their own day, succeeded in producing an original style, to which the remaining examples appear to offer very slight suggestion. If the Italian architects could succeed in producing a style so dissimilar, but still of great beauty, conducive to their wants, and yet susceptible of improvement, is it not reasonable to suppose, that with such abundant materials, and such resources of science as we possess, we have the power, from a style like the Roman apparently exhausted, to produce another conducive to the wants of this age. The labours of individuals can do little to alter the present condition, very little, whilst they are excited in all directions, and in none continuously. It is by combined exertions, by the systematic examination and classification of details, that we may hope to perfect our knowledge of Gothic Architecture, to gain an insight into the principles of our ancestors, and by applying them, or varying them according to modern wants, produce a style, which, like the architecture of Italy, shall be national, distinct, and characteristic of the times.

The means of escaping from present errors are difficult to suggest, but as a conviction of the evil is one step towards the remedy, we should esteem ourselves fortunate in reaching that much of the progress. E. H.

REVOLVING IRON SHUTTERS.

BUNNETT AND CORPE *v.* SMITH.

An action brought by the plaintiffs Messrs. Bunnett and Corpe, manufacturers of the patent revolving iron safety shutters, against the defendant, Andrew Smith, of Princes-street, Leicester-square, for an infringement of the patent granted to the plaintiff Bunnett in 1836, was tried on the 23rd and 24th ult., in the Court of Exchequer, before the Lord Chief Baron, Sir F. Pollock, Knt., and a special jury.

From the evidence, it appeared that the adoption of iron blinds or curtains to the windows of Apsley House, by his Grace the Duke of Wellington, in the troubled times of 1831-2, directed the attention of several ingenious men to the fitness of shutters of a similar material to the purposes of general security. In the year 1833, Messrs. Turner and Barron put up several revolving iron shutters at the house of Lord Brownlow, in Belgrave-square; these shutters were composed of narrow strips or laths of iron, connected by hinges of copper in such a way that a series of interstices were apparent between the laths, while the hinges were both visible and easily accessible on the outside of the building. The raising of these shutters was effected by a catgut band which wound off from a roller at the top of the window on to a small windlass placed below. Shutters of a similar description were also put up by the same parties at the banking house of Messrs. Glynn and Co., and of Esdaile and Co., in Lombard-street; at the Conservative Club-house, Pall Mall; the Turk's Head tavern, in the Strand; and some other places. In June, 1836, Mr. Bunnett obtained letters patent for his improvements in revolving iron shutters, which consisted in the adoption of strips of iron connected together by hinges of iron in such a manner as to avoid the necessity for cutting away the edges of the strips to receive the knuckles of the hinges. Mr. Bunnett likewise adopted the endless screw and worm-wheel, as peculiarly adapted for raising or lowering all such shutters. In Mr. Bunnett's improved shutter each lath or strip of iron overlaps and lies in close contact with the one below it, so as to form a firm sheet of iron, which not only concealed the joints or hinges, but also effectually secured them from external violence.

The utility of Mr. Bunnett's invention was duly appreciated by the public, and his revolving shutters came at once into most extensive use, being adopted by nearly all the bankers and insurance companies, as well as by numerous tradesmen and others in the metropolis, and in the principal towns throughout the kingdom. The demand had gone on progressively increasing, and for a period of eight years the patentees were allowed the undisputed monopoly of their patent right. In 1844, however, the defendant Smith made and put up eight shutters in a building in George-street, Mansion-house, belonging to Messrs. Smith, Payne, and Co., which were considered to be a direct infringement of the plaintiff's patent; and an application was made for an injunction to restrain the defendant from proceeding with his infringement. The Vice-Chancellor, Sir L. Shadwell, deferred granting the injunction, making the usual order, and directing the plaintiff to establish the validity of his patent in an action at law.

The evidence of Mr. Carpmael, Mr. Farey, Mr. Laxton, Mr. Cottam, and Mr. Baddeley went to shew the novelty and usefulness of the plaintiffs' invention as well as the sufficiency of the specification.

The defendant's record contained the usual pleas of want of novelty, utility, &c. An attempt was made to prove the former by reference to two patents granted to Mr. Michel and Mr. Whiting in the years 1818 and 1819 (both for wood shutters); and that the defendant's shutter was an improvement upon, and not an infringement of, the plaintiffs' patent. The trial lasted nearly two whole days, and after a deliberation of upwards of two hours, the jury returned a verdict for the plaintiffs upon all the issues, with damages, and his lordship certified that the right to a patent came in question, and that it was a proper cause for a special jury.

THE LATE CONFLAGRATIONS IN EUROPE AND AMERICA.*

BY J. L——Y.

"Prevention is the *best* remedy."

Although every thing gets now-a-days drowned and engulphed by the overflooding of an exuberant (and in many cases useless and unmeaning) public press—yet, the late awful calamities have been *able* making *some* impression on the public mind; a reason why we resume this subject, to bring it to a final close. Having in our preceding paper urged "the *regeneration* of architecture," as the surest and soundest remedy for the preventing of calamitous fires—a *moral* agency withal, at least in its leading principle; we have to state now, that notwithstanding the fragile and futile (main) buildings, in which people condescend, or are compelled to live—we are most anxious to fill such frail receptacles with every sort of equally futile and combustible tawdriness; such as huge bed and window curtains, table covers, carpets and rugs, and drapery and trappery of every kind. But *we* do not wage war against comfort and ornament, but against its abuse and illegitimacy. In this respect also our forefathers were the *better men*—their furniture was made for centuries, like their buildings for ages. But as such most futile lumber is *often* acquired by very heavy sacrifice (aye, *even* of principle), we say, let us not go too far that way; let us somewhat retrograde to the noble and stern and pure simplicity of our forefathers; and, we are sure every loving parent will approve of our suggestion, "let your children sleep in a *safe* house, even if their bed be without curtains."

Another *cause* of fires (it comes always to *principle*) is the careless—atheistic—way, in which fire is handled and managed by, not alone servants, but even by masters, who *ought* to know better. The criterion of atheistic belief is to consider *ourselves* as the centre and sole aim of every thing around us. "We have heard of Hamburg and Pittsburg and this street and the other in our neighbourhood—but such accidents happen only to insignificant vermin around us—they never will or can reach *me*." If other means have been found unavailing to check such belief and acting upon it, the legislature ought to step in; as it is really too *naive*, gentleman or lady going to a hotel in which their bill may amount to 5*l.* or 10*l.*; while they will set the bed-curtains on fire, and cause the loss of property hundredfold that amount, with a few human lives into the bargain. As there ought not to be even an accidental homicide without a judicial procedure, no more ought there to be an accidental arson (!) without it—and if persons were to know, that they will be subjected to, at least, annoying proceedings by setting the bed-curtains or any part of a hotel or other place on fire, they will be more careful than hitherto. Moreover, we think, where the least negligence or carelessness can be proved, such party ought to be subjected to either heavy fine or other punishment—and if malice (on the part of servants or others) can be traced, then, certainly the party should be indicted for either misdemeanour or even felony. The too far extension, and lax organization of fire insurances has had that disadvantage, that fires are only considered as *material* accidents; but the moment that the public would be made aware that they (in most cases) entail *moral* evils, the thing would be different.—It is, after all, again our favourite *seven and a half per cent.* Capitalists *get* their dividend, and the uninsured poor is assigned over to the poorhouse or other "*public*" charity, which, to say it *again*, has to pay (in all cases) part of any excessive dividends.

An unpleasant (!) secret has lately come out at Hamburg, which will lead us to another phase of our subject. It has been observed, that a certain merchant had burnt down his premises *twice* even since the great fire, for which he obtained his *premium*—and it was first considered a strange coincidence (!) that it was the same *gentleman*, on whose premises the great fire originated. Similar hints have been thrown out in this country in one or two instances. What punishment ought to be awarded to a *brute, which*, for the sake of a mean and pitiful lucre of a few thousand pounds—will distress a whole city—human imagination (or human philanthropy) can scarcely desire. Still, such awful cases exist—Hamburg and Pittsburg *have* followed each other, at any rate, *too close*, and we say boldly and unreservedly: "let us be prepared for, or rather guarded against, similar occurrences—at London, at Birmingham, &c." But this is neither the time nor place to write (a book) on "public establishments for preventing conflagrations." We *may* throw out some broad hints, and must leave it to the "discretion and conscience of the people" to carry them out if they are found deserving. London, certainly (and other cities) have a *fire brigade*, but it lacks proper organization. Any body of men, who are called upon to act promptly, energetically, *concentratedly*, cannot do so without military organization; amongst which the hierarchy of privates, corporals, sergeants—up to the commander (in chief), for every city or district is included. The man who was drunk when he had to use the fire-escape in Dover-street, has been dismissed, and very properly—nay, we say, he ought to have been *tried* for homicide. But do our respected readers know how these fire-escape men are now situated? They have to attend, night after night, to their engine—*alone*, with the only resort of a little hut left to them. Is it to be wondered that they are seized with *ennui*—tired out in fact? and then the resorting to a near public-house, and all the other *et ceteras* are the consequence. The first, therefore, would be to place the fire-escapes *at*, or very near, the stations of the fire brigade, where the men attending them would have not only company, but be under the eyes of the corporal, sergeant, and the inspecting officers. This leads us to another important item without which no body of men will ever be efficient. This is "the *surprising system*," as we boldly call it. This system has been resorted to by men like Sultan, Omar, Joseph II., Frederic the Great—albeit in greater concerns than that of fire-escapes. It, however, holds good everywhere. Let the

* See pp. 266 and 280.

(fire) commander-in-chief, or any fire-major or captain get up occasionally and unpreparedly, and surprise and visit some or other posts of the fire-brigade or the escapes, and he'll see (I'm sure of it) strange things going forward — but this only for a very short time. Because these gentry would soon find out, that the eyes of their superiors are ubiquitous, and that they cannot *gammon* them. The public may have forgotten it—but *history* has not, that when the large conflagration of the Tower took place, there was *no* water, for which, certainly, something might have been said to the constable....on duty. If such destruction of (public—national) property ought to have had any result, it ought to have, at least, that of teaching mankind a lesson. But it seems, it does not. Even since *the fire*, other property has been consumed on account of the deficiency of water—and none seems to think, that a stop *ought* or *could* be put to such scandal. Our suggestion on this score—the *practicale* of the surprising system is, that the fire-commander-in-chief or other superior should appear *ex tempore* one fine night in a certain locality, and give an *artificial* alarum to the fire and water men. If, then, any defect should be discovered, say in the most *essential* —the supply of water, the company, or whosesoever fault it is, should be made to *smart* for it. Oh! but where *is the seven and a half* per cent. then—may some of our readers exclaim. To which we merely reply, "Beware of a *repetition* of Pittsburg or Hamburg!" The complaints, in fine, on our present social condition from *the throne* (here and elsewhere), the constant talk—large and *small*—in the legislatures, the thousand philanthropic and charitable societies, the tons and shiploads of *paper* stained therewith, are becoming nigh disgusting, if not acted upon by *every one* in *his* sphere. Otherwise, it would be preferable, to at once and openly declare ourselves Atheists—consider human (aye and cosmic) affairs as something adventitious and futile; continue barefacedly the hitherto *gambling* of life, where every sort of *craft* has a good chance of success, and leave the large mass of fools (*the people*) to shift as they best may, and to have no more *fuss* about it.

EXHIBITION AT WESTMINSTER HALL.

In addition to six artists who were deputed to execute a cartoon, coloured sketch, and a specimen of fresco-painting, for subjects which were given, her Majesty's commissioners on the fine arts threw open the same subjects for general competition, and offered three premiums of 200*l.* each for the most worthy specimens. The commissioned pictures, as well as those specimens sent in competition, are now open to the public. Some of the newspapers have fallen into the error of expressing their surprise that none of the six artists selected last year have obtained prizes on this occasion, overlooking the circumstance that they are each to receive definitely the sum of 400*l.* for their work. As regards the assignment of the fresh prizes, we do not hesitate to say the judges have performed their duty fairly and ably. It must be gratifying, in a high degree, to the committee of the Art-Union of London again to find two out of the three premiums most worthily borne off by young artists whom they by honorary rewards for outline drawings have in some degree led forth, namely—Mr. J. Noel Paton and Mr. John Tenniel, jun. The third is awarded to Mr. E. Armitage, who distintinguished himself in a former competition.

Considering that England is an infant in the art of cartoon making, and still more so in fresco painting, she must certainly be allowed to be a precocious and apt scholar. The exhibition as a whole is deserving of the highest commendation, and must equal the hopes of the most sanguine.

No. 5. by Mr. A. Aglio. The subject "Religion," is clever, more particularly in the upper part, but Faith, Hope, and Charity, want refinement. In the fresco this artist has shewn considerable ability.

11. "The Spirit of Religion," by J. Noel Paton. The idea is remarkably fine and is carried out with great energy and executive power. It will amply repay careful examination. The specimen of fresco, which the artist informs us is "the first experiment," plainly shews ability to do better next time; this is one of the deservedly rewarded.

23. "An Allegory of Justice," E. H. Wehnert. An excellent cartoon, the grouping and drawing are successful; the whole, though pervaded by Germanism, is true to nature, and in parts unexceptionable.

Mr. Buss's cartoon (29) is barely redeemed by the figure of Gascoigne, which has considerable dignity; the rest is weak and unmeaning.

32. "The Baptism of King Ethelbert," J. Severn, is a falling off from his "Queen Eleanor!" The fresco is more happy.

Mr. John Callcott Horsley, one of the commissioned artists, has produced a work of pure unaffected truth and refined sentiment in his cartoon of "Religion," of beautiful breadth and drawing. This work is a masterpiece. The fresco and coloured sketch are alike excellent.

38. "Justice," by William Cave Thomas, another of the commissioned. This artist aims at the style of the earliest German masters. It is a grand work of time, labour, and much study; in parts strongly reminding the spectator of Albert Durer's works. The fresco shews knowledge of the material.

If excellence consisted in finish, Mr. Maclise's cartoon (41) is the acmé of perfection. Never was finish carried to such an extent before in cartoon drawing. Each head, hand, and leaf, is a picture in itself. The shine of the armour, and strong light and shade which pervade it, render it somewhat confused, but the general drawing is truly beautiful, and the coloured sketch is as good a picture as he has painted for some years. The fresco is disagreeably coloured, particularly the flesh. Mr. Maclise is another of the commissioned.

A sketch by Edward Corbould (44) is excellent in colour, but does not tell the story. The fresco of Ethelbert's head is well executed.

"The Spirit of Religion," Edward Armitage, is broad, grand, and well-drawn; and characterized by high and religious feelings. The fresco and coloured sketch are much inferior. The cartoon has been most deservedly rewarded.

Mr. Cope, A.R.A., has produced an excellent cartoon of "Edward the Black Prince receiving the order of the Garter from Edward III." (57), finely drawn, and effectively shaded, but the figure of Edward is rather exaggerated in action. The sketch and fresco are both excellent, especially the former.

"Prince Henry acknowledging the authority of Chief Justice Gascoigne," by R. Redgrave, A.R.A. This is not satisfactory, the drawing faulty, and the fresco unworthy the painter of "Catherine Douglas." This is another of the commissioned works.

"The Baptism of Ethelbert" (63), William Dyce. An extraordinary performance, full of feeling and pure truth unalloyed by prettiness. This is one of the commissioned cartoons, and has high pretensions to perfection. To say more of the sketch and fresco than that they are worthy attendants of the drawing would be superfluous.

Mr. Bendixen's "Religion," is a mistake. The figure meant to represent the New Testament seems toasting some absent swain.

Mr. John Bridges exhibits a graceful and clever cartoon from the subject of "Prince Henry acknowledging the authority of Chief-Justice Gascoigne." It is accompanied by a most careful oil sketch, and an able production of fresco.

"An Allegory of Justice," (85) by John Tenniel, jun. This young artist promises to excel in the grand art of cartoon drawing; in this work he exhibits extraordinary talent for design, and power in the use of the crayon. Although but an outline, the parts are made out with astonishing boldness. One of the premiums has been awarded it most justly. The fresco and sketch in colour abate nothing in excellence.

A good idea is brought forward by Mr. Brown in the cartoon of "Justice" (98): well-studied and carefully executed; it deserves considerable commendation.

"Sketches of the Spirit of Chivalry, Religion, and Justice, to shew the relation between the three subjects," (104) by Frank Howard, are clever ideas, well executed.

"Justice" (which by-the-bye seems the favourite subject) is ably illustrated by John G. Waller in cartoon 108, the effect of which is broad and clear.

And again, by T. Y. Hurlstone: the figure allegorical of Mercy is well expressed, although in rather an awkward position.

The sculpture, which forms an accidental feature in the exhibition, is in many instances remarkably beautiful; the works that chiefly excited our attention are "A Hunter returning Home" (117), by Frederick Thrupp; "The afflicted Mother" (122), by John Evans Thomas; "The Dying Briton," and "The Orphans" (123 and 124), by Felix M. Miller; "William Shakspeare" (127), John Bell; "Pastoral Apollo," and "The Wanderer's Home" (128 and 129), by Edward B. Stephens; "Abel and Thirga" (130), by Thomas Earle; "David" (131), E. Richardson; Mr. Mac Dowell's group of "Love Triumphant" (139); and "A Girl Reading," by the same excellent artist (140).

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

The fifteenth meeting of the Association has passed very pleasantly and very usefully, notwithstanding what may be said by its opponents, and will, there is every reason to believe, continue to pursue its course for many years to come. Sir John Herschel, in his address as president, eloquently observed:—

"True science, like true religion, is wide-embracing in its extent and aim. Let interests divide the worldly, and jealousies torment the envious! We breathe, or long to breathe, a purer empyrean. The common pursuit of truth is of itself a brotherhood. In these our annual meetings, to which every corner of Britain—almost every nation of Europe sends forth as its representative some distinguished cultivator of some separate branch of knowledge: where, I would ask, in so vast a variety of pursuits which seem to have hardly any thing in common, are we to look for that acknowledged source of delight which draws us together and inspires us with a sense of unity? That astronomers should congregate to talk of stars and planets — chemists of atoms — geologists of strata — is natural enough; but what is there of *equal* mutual interest, *equally* connected with and *equally* pervading all they are engaged upon, which causes their hearts to burn within them for mutual communication and unbosoming? Surely, were each of us to give utterance to all he feels, we should hear the chemist, the astronomer, the physiologist, the electrician, the botanist, the geologist, all with one accord, and each in the language of his own science, declaring not only the wonderful works of God disclosed by it, but the delight which their disclosure affords him, and the privilege he feels it to be to have aided in it. This is, indeed, a magnificent induction—a consilience there is no refusing. It leads us to look onward, through the long vista of time, with chastened but confident assurance that science has still other and nobler work to do than any she has yet attempted; work, which before she is prepared to attempt, the minds of men must be prepared to *receive* the attempt,—prepared, I mean, by an entire conviction of the wisdom of her views, the purity of her objects, and the faithfulness of her disciples."

Of papers which relate to subjects especially treated of in our journal, there was a dearth; in the mechanical section, for example, little or nothing was done. We have selected, however, a few items of information which will interest our readers.

Strength of Stone Columns.—A paper on this subject was read by Mr. Eton Hodgkinson. He had experimented on columns from 1 inch to 40 inches long, and 1 inch and 1¾ inches broad. Care was taken that they were cut from the same block, and in the same direction of the strata. They were crushed between hardened steel plates, by means of leverage, and a specimen of 1 in. square required a pressure of 10,000 lbs. to crush it; in the crushing, it was invariably the case that the piece operated upon split into wedges, with keen edges. A column forty times longer than wide or thick, was one-third weaker than a cubic piece, and in these long pieces the splitting always began at the ends; the practical utility of this knowledge was, that stone pillars for buildings, which were of great weight, should be broader at the ends than at the middle, to make the

strength uniform throughout. The stone operated upon in these experiments was a very hard kind, found in the vicinity of Manchester.

The sum of 60*l.* was afterwards voted to Mr. Hodgkinson for the prosecution of further experiments.

Coloured Glass.—Prof. Playfair, in the absence of Prof. Graham, communicated the results of some experiments on coloured glass, by Mr. Splitgerber, and exhibited some specimens of white glass, containing gold, which coloured a deep red on the application of a certain heat, and loses this colour, though not entirely, on being heated to a point approaching fusion.

Production of Iron in Scotland.—Dr. Watt read a paper on the production of iron in Scotland. This paper shewed the improved state of the iron trade in Scotland, the increase of new works and additional furnaces, with every probability of continued prosperity. Dr. Watt stated that it required a million tons of coals to produce 400,000 tons of iron.

Mr. Porter said that in the iron works in Great Britain, for one year, 1,396,400 tons of iron were made from 4,877,000 tons of coals; this shewed a discrepancy according to the statement of Dr. Watt.

Prof. Pryme thought the discrepancy might arise in part from the impurity of the ore; upon the purity of which a good deal depended as to the quantity of coals required.

A member said the introduction of hot blast had made considerable alteration in the iron works in Scotland. It once took seven tons of coals to make one of iron; consequently, the iron works were regarded as hardly profitable; but by the hot blast, the average of coal is about 2¼ tons to the ton of iron; and the profits of iron works have risen in proportion. The refuse of coal, or small dust, which cost nothing, was used for hot blasting, and was not counted in the weight.

Mr. Porter, in adverting to the requirements upon the iron works, said there was one district of railway now before the House which was calculated to require 851,000 tons of iron. Our export trade in iron had also become of immense magnitude. In 1843, there was exported 460,000 tons of iron, and the use of this metal would be greatly on the increase if its price were kept moderate, as it was much used in the building of steamers, and found to answer well. One person had forty-five iron steamers in England, and another gentleman had informed him that he had had an iron steamer in constant use twenty-five years, and that it had not cost 50*l.* for repairs the whole period, nor had it been laid up a week.

Railway Gradients.—Mr. Fairbairn read a paper on the improvement which had been effected in railway gradients, from which we take the following tables:—

TABLE OF ATMOSPHERIC RESISTANCE.

20 miles an hour	107
22	130
24	155
26	182
30	211

RESISTANCES AT THIRTY-THREE MILES AN HOUR.

Gradients.	Force of friction in per ton.	Gravity in per ton.
1 in 20	25	11,206
1 in 30	25	7,466
1 in 40	25	5,600
1 in 60	25	3,733

The President said that, by these improvements, railroad companies would be enabled to lay out their money more economically on engines of greater power, and the stationary ones might be done away with.

A member stated that the single lines were now coming into use (as in the Peterborough Railroad), with the electic telegraph, protected by which they were safer than the double ones. Looking at the saving of human life, this was a question of the deepest interest; and if, as on the Great Western, the electric telegraph were destroyed by the collision, there might be a second telegraph on the other side, to be worked in case of such accident taking place. In a pecuniary point of view, at this moment, when millions were about to be laid out on new lines, the improvements brought before the section were of the greatest importance.

Steam Pile-driving Machine.—Dr. Greene read an interesting paper on the Steam Pile-Driving Machine, recently invented by Mr. Nasmyth, of Plymouth. At the last meeting of the association the steam hammer, invented by the same gentleman, was brought before the consideration of the mechanical section, and received its approval. The new instrument, which had only been put together within the last few days, depended much upon the steam hammer. It consisted of two uprights, each 80 feet high, such height being necessary, in consequence of the immense piles it had to take up and drive into the sea. These uprights were parellel to each other. There was a cap in the middle, through which the pile went, and the piston moved in the cylinder upwards by the force of high-pressure steam. It was self-propelling, and moved on a railway. Dr. Greene was happy to be enabled to state to the section, that he had received a letter, a day or two back, from Mr. Nasmyth, stating that he had just completed the instrument, and tried it, with the most signal success. The first pile driven down by it—and this into a bed of hard yellow clay—was 14 inches square, and 18 feet in length, and was done so in the space of 17 seconds. "It was truly laughable," said Mr. Nasmyth in his letter, "to see this gigantic machine running along, picking one monstrous pile after another, and driving them into the earth with as much ease, and almost as quickly, as a lady would stick pins into a pincushion." Dr. Greene exhibited the drawing of two piles—one bent, crookened, and split, after having been driven into the earth by the old method, with 20 hours' labour—and the other perfectly whole, after having been sent down by the new instrument in the incredibly short space of 4½ minutes. The advantages of such an enormous power, he said, were incalculable in the saving of time, labour, and capital: and we should reap the benefit of them in all directions where great national works were going on, and especially in the formation of the harbours of refuge along our coast, and recovering land from the sea. The enbankment at Devonport had a stubborn sea to contend against; and it was calculated that it required even yet 30,000 piles to be driven down to complete it, in which case the power and advantage of Mr. Nasmyth's invention would be at once felt and acknowledged. One of the Lords of the Treasury had been very recently in his neighbourhood and having seen the instrument tried, expressed his approval of it; and he (Dr. Greene) was happy to add, the inventor received an excellent Government appointment. Mr. Nasmyth, when his principle of the steam hammer was primarily developed, never anticipated that he should ever be enabled to carry it out to such a wonderful extent as he had succeeded in doing in the space of twelve months. The weight had been at first about from four to five tons; but it was subsequently found that this was a great waste of power, and that one-fourth of it was all that was required. The face of the hammer was parallel with the face of the anvil, and its power of sustension was wonderful. When tried the other day, Mr. Nasmyth, to prove this feature the more satisfactorily to some persons who went to see the instrument tried in all respects, said it should crack a walnut without crushing the kernel; but the walnut not being at hand, one of the workmen offered a small tin snuff-box, which being placed open under the hammer, the lid was delicately shut down, without dinge or injury.

Mr. Fairbairn testified to the powers of this wonderful hammer, having seen it tried. The velocity was in the ratio of the force of the steam; it might be made to strike from four to five hundred blows a minute.

The President said that he had had some experience in pile-driving at Sheerness and the London bridges, and he could safely say that it took more hours to drive down a pile by the old method than minutes by the proposed one. He congratulated the section on what they had just heard; and he thought the lovers of science, and the country in general, were much indebted to Mr. Nasmyth.

The next meeting of the Association will be held in Southampton; Mr. Murchison is elected president.

Improvement at Darwen.—Mr. Eccles Shorrocks intends to build, at his own expense, a spacious covered market-house, and Mechanics' Institution, at Darwen.

DECORATIVE ART SOCIETY.

On Wednesday, 25th ult., the consideration of "Geometrical figures as the foundation of graceful outline," was resumed with more especial reference to the "properties of the oval."

From observations of the works of the Ancient Egyptians and Greeks, it was considered that those nations were acquainted with a practical method of producing continuous curves which is not apparent in either Roman or modern art. The elliptical lines on which the beautiful outlines of the Etruscan vases were founded were supposed to have been selected from a series produced by some simple and convenient system, and are not to be altogether ascribed to the greater perfection of their skill in design.

An approximation to the forms of the ancient vases may be undoubtedly produced by mathematical arrangements of straight lines and segments of circles, as was shewn, but such systems were considered to be necessarily complex and unattended with that practical accuracy and freedom observable in the originals. The defects of our practice were instanced in the Tudor-arched heading of the windows to the new Palace of Westminster, where an approximation only to the beauty of a curved line is attained.

It was also argued that curves based on hexagonal proportions were the most graceful, and Mr. Jopling partially explained the "septenary system of generating curves by continued motion" through combinations of rotatory movements with those of an ordinary trammel as invented by himself, and he exhibited drawings that certainly appeared to possess a variety, precision, and accuracy, much to be desired; he also affirmed, that for practical purposes, the expense of a couple of shillings would supply a workman with means to produce correctly any curve that might be required.

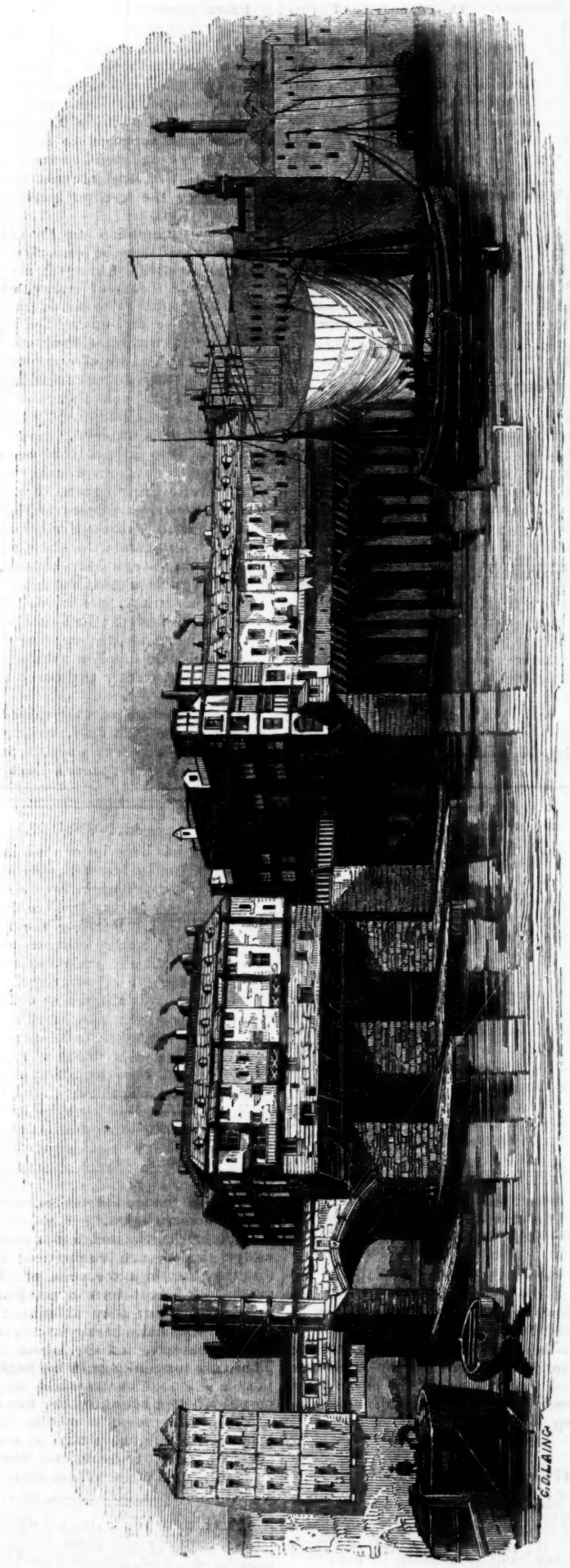
The discussion of this subject will be resumed on the 30th July, when the merits of Mr. Jopling's septenary system and the principles of spiral or serpentine lines will be considered.

ART-UNIONS.

A bill has been introduced into the House of Commons, by Messrs. Wyse and Ewart, for revoking so much of the laws against distribution by lottery as may legalize the proceedings of Art-Unions. Reciting the recent circumstances in the history of these institutions, the bill enacts that all such voluntary associations for the purchase of paintings, drawings, &c., to be afterwards allotted by chance, now constituted, or which may hereafter be so, shall be deemed and taken to be lawful associations, —provided always "that a royal charter or charters shall have been first obtained for the incorporation of such associations, or, provided that the deed of partnership or other instrument or instruments constituting such associations, and the rules and regulations relating to the proceedings of such associations for such purposes as aforesaid, shall have first been submitted to the consideration, and be approved of, by a committee of her Majesty's most honourable Privy Council, and a copy thereof deposited with such committee; and provided such proceedings for such purposes as aforesaid shall have been conducted in strict conformity with the royal charter or charters which may have been granted, or the deed of partnership, or other instrument or instruments constituting such association, and the rules and regulations which may have been approved of, as hereinbefore set forth."

The newspapers, in mentioning this provision in the bill, have all stopped short at the royal charter, and omitted the alternative, which is of considerable importance.

Fall of a Wall, and Fatal Result.—Last Saturday afternoon about 30 feet in length of a wall, bounding the premises of Mr. Davies, an emery manufacturer, in Richardson street, Bermondsey, was thrown down, in consequence of 100 tons of emery stones being piled against it. The wall was 10 feet in height, and 9 inches in thickness. Several children were playing near the spot, and one was crushed to death, while three others received severe injury.



VIEW OF OLD LONDON BRIDGE.

OLD LONDON BRIDGE.

The annexed engraving is a view of Old London Bridge, taken near St. Olave's Stairs, about the year 1757, shortly before it underwent very extensive repairs and improvements, including the removal of the houses, which for several centuries encumbered and disfigured it from one end to the other. The date of this bridge is much better authenticated than that of most buildings possessing claims to a remote origin, for we find in the "Annals of Waverley" (an abbey in the county of Surrey), the following entry:—"1176. In this year the stone bridge, at London, is begun, by Peter, the chaplain of Colechurch."*

It was finished in 1209, having occupied thirty-three years in building. It consisted of a stone platform, erected on elm piles, driven into the bed of the river, and was 926 feet long, 15 feet wide, and 60 feet high. It had a draw-bridge, and twenty pointed arches, from 15 to 32 feet span, with massive piers from 17 to 30 feet thick, and of various lengths of from 26 to 115 feet. The longest pier stood in the middle of the river, and served as well for the bridge as for a chapel which was erected on it, and dedicated to St. Thomas-à-Becket. This chapel was a very elegant structure, and consisted of two chambers, an upper and an under one, or crypt, immediately on the starling; the communication between the upper and under chapel was by a spiral flight of stone steps. The upper chapel was lofty, and elegant, being supported by fourteen groups of clustered columns, and lighted by eight pointed windows. The crypt below was even superior, for, although it was not so lofty, the intersections of the pointed arches and windows were more beautiful. The length and breadth of each were the same, nearly 60 feet long and 20 feet broad; the height of the upper chapel was 40 feet, and that of the lower was 20 feet. This was the first building erected *on* the bridge, and was coeval with the structure†. At what period the other buildings were erected is uncertain, but it is generally supposed that the towers were built soon after the bridge was finished. In the year 1426 the tower at the north end of the drawbridge, over which traitors' heads were usually exposed, was erected, but in 1577 it had become so decayed as to require removal. A new building was commenced, and the traitors' heads, amongst which were those of Fisher, Bishop of Rochester, and the celebrated Sir Thomas More, were placed over the gate on the Southwark side, afterwards called the Traitors' Gate. But the most splendid building that adorned old London Bridge was the famous Nonesuch House; so called from its having been constructed in Holland, entirely of wood, and brought over to this country in pieces, and erected on the bridge with wooden pegs only, not a single nail having been used in the edifice. It stood by the seventh and eighth arches from the Southwark end, projected considerably over each side of the bridge, and presented a very striking appearance from its varied and highly-decorated architecture.

In the year 1582 the first water-works were erected by one Peter Morris, for the purpose of supplying the City with water, and six years afterwards three other water-wheels were erected at the Southwark end of the bridge for grinding corn. How long the latter mills remained is uncertain, the former existed until 1822, when an Act was passed for their entire removal, and the proprietors received 10,000*l.* for transferring their rights to the New River Company.

In 1754, the bridge requiring very extensive repairs, a wooden bridge was erected on the starlings, on the west side; the houses were removed, the centre pier and two arches adjoining taken down, and replaced by one large arch, the bridge widened several feet, and finally opened to the public in 1759. These alterations are said to have cost 100,000*l.*

The annual loss of life and property that

* This church stood, until the great fire of London, on the north side of the Poultry, at the south end of a turning denominated Conyhoop-lane, and was famous as the place where St. Edmund and St. Thomas-à-Becket were presented at the baptismal font.

† From the same authority we have already quoted, namely, the "Annals of Waverley," we learn that the remains of the pious architect of the bridge were entombed in the chapel. The passage runs thus: — "In 1205 died Peter, the Chaplain of Colechurch, who began the stone bridge; and he is sepultured in the chapel upon the bridge."

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occurred through the dangerous state of the navigation under the arches, the fall being at times as much as five feet, and the perpetually recurring expense of keeping the bridge in repair, added to the rude appearance of the structure itself when contrasted with the fine bridges which had been recently erected over the Thames, suggested, about the beginning of the present century, its entire demolition, and the construction of one more in accordance with the taste and skill of the times, as well as with the princely character of the Corporation of London. Accordingly, surveys, reports, and estimates were made, various plans proposed, some for once more repairing the old bridge, and others for constructing a new one. The most eminent architects and engineers had their attention directed to the subject for upwards of twenty years. At last, in the year 1822, the corporation advertised for plans, and premiums were awarded to three of those sent in. After much discussion both in the city councils as well as in the House of Commons, Mr. Rennie's design was adopted and carried out.

On the 4th of March, 1824, Messrs. Jolliffe and Banks, the contractors for building the new bridge, commenced their operations: on the 15th of June, 1825, the first foundation stone was laid by the late Duke of York: and on the 1st of August, 1831, his late Majesty William the Fourth, and the present Queen Dowager, were pleased to honour the opening ceremony with their presence. Shortly after this event took place, the work of destruction commenced on the old bridge, and within a few months, not a vestige was to be seen of a structure which had been very famous in its day, and the Chronicles* of which illustrate most vividly the manners, customs, and events of London, during a period of six centuries and a half. J. H.

BAILLIE'S SLIDE-VALVE TRANSPARENT VENTILATOR.

THIS ventilator consists first of a series of louvres of glass, which are permanently fixed at a certain inclination, so that the currents of air may be directed upwards and dispersed; and secondly, of a sliding valve, likewise of glass, which regulates the quantity of air admitted, and which when closed, renders the openings perfectly air-tight: the whole is contained in a neat thin frame, which may be readily adapted by a common glazier to any of the panes of a window; the frame itself, when thus fixed, seems to coincide with the sash bars, and the rest of the ventilator being quite transparent, the general appearance is by no means displeasing.

Several advantages arise from having the louvres stationary, instead of being moveable, for example:—First, the draught of cold air is avoided, which in the case of moveable louvres enters through the interval that is required to be left between their ends and the sides of the frame. Secondly, this apparatus has no joints, nor other working parts where the dust can accumulate and become hardened so as to obstruct their action; but it may be closed in a perfectly air-tight manner, even in the most dusty situations. Thirdly, its construction is so simple, that nothing but rough usage could injure it; and if out of order, it may be repaired by any ordinary workman.

The annexed diagrams will serve to shew its appearance and action.

Figure 1 gives an elevation and a vertical section of a sash-window with the ventilator fixed in the position which is thought to be the best for avoiding draughts; *a a*, the fixed inclined glass-louvres; *b c*, the slide-valve for regulating the quantity of air admitted, which is moved by the cords (*d e*), coinciding with, and hidden by the sash-bars, and passing over pullies (as at *f*, *g*, *h*, *j*), to any required position; in the sketch the cord is finally passed over a rack-pully (*n*), in the same way as in ordinary roller-blinds; but, when it is required frequently to pull down the top sash itself, the cord had better be furnished at its lower end with a balance weight instead of passing over a rack pully; *k*, an eye screwed into the sash-bead through which the cord runs; *l*, connecting socket which serves both to unite the cords (as shewn in the sketch), and also to stop (by means of the eye *k*) the slide-valve from being drawn out too far or let down too violently. The slide-valve may, however, be lifted out by hand, for cleaning or any other purpose.

Figure 2 shews the mode of adapting the slide-valve to the sashes of basement, attic, or other windows, where the top panes can be easily reached by the hand.

We have had one of these ventilators in operation under our own eye for some time past, and find that it answers the purpose exceedingly well. The cost of them is comparatively trifling.

BAILLIE'S SLIDE-VALVE TRANSPARENT VENTILATOR.

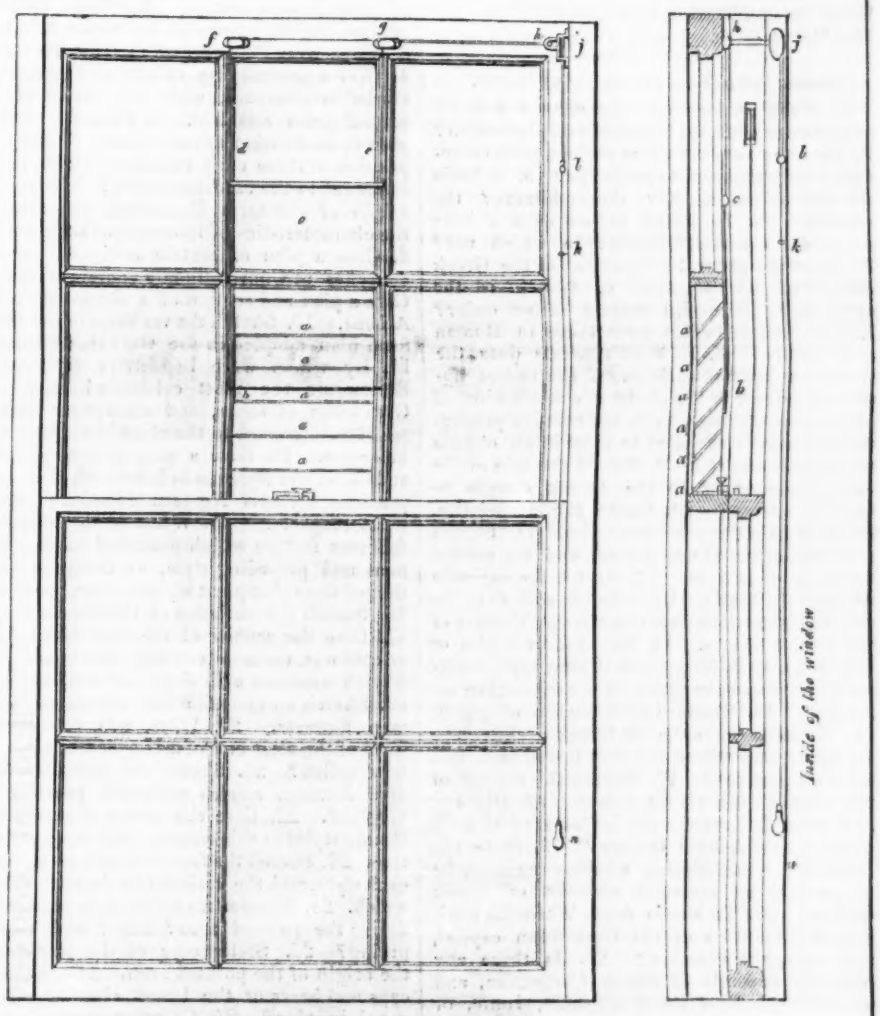

Fig. 1.

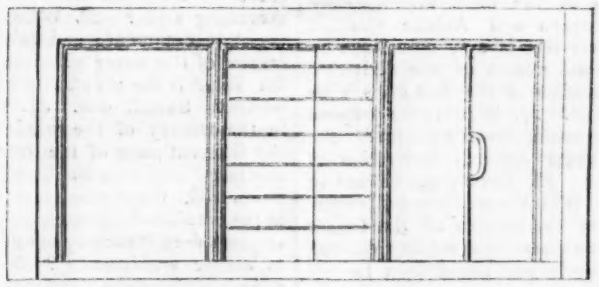

Fig. 2.

* "The Chronicles of London Bridge," 8vo. 1827.

HITCH'S PATENT DRAIN.

SIR,—With the remarks contained in a letter on the subject of house drains in the last number of THE BUILDER I fully agree, but as drain-pipes are liable to fracture, permit me to call your attention, and through your paper, that of your readers, to a description of drain which I have used for some years, and have always found to answer admirably, and at the same time at less cost than drains of common brickwork.

I allude to Hitch's Drain bricks, for which a patent has been obtained. They have been in use some years, but are not so well known as they deserve to be.

Each brick is 13 inches long, segmental and wedge shaped, and is rebated at the ends, so that they may fit into each other. For a 9-inch drain, four bricks form a complete circle or gun-barrel-drain; they fit quite closely together, a very small quantity of mortar or cement being necessary, and the labour is very little. There are two sinkings in the back of each for the workmen to handle them by; these also permit a better action of the fire in burning, and the inside is quite smooth. Four of the bricks form a 9-inch drain, at a cost of 11d. per foot. Six of the bricks form a 12-inch drain, at a cost of 1s. 4d. per foot.

The maker is Mr. Hitch, of Ware, Herts, who has had for some time past a depôt for their sale at Lindsey Wharf, Chelsea. I think it only an act of justice to the ingenious manufacturer to mention them, as I consider them the best drains ever invented, and shall ever use them.—I am, Sir, &c.

A BUILDER OF THIRTY YEARS' STANDING.
Lambeth, July 1st, 1845.

*** We have ourselves had a long experience of the drain-bricks, and can bear witness to their great excellence.

EXAMINATION IN ARCHITECTURE AT UNIVERSITY COLLEGE, LONDON.

Last week we gave the course of examination in architecture as a science: we now add the series of questions as relates to architecture as a fine art.

First Year.

Greek and Roman Architecture.

1. What analogy has the column and its entablature with any object of early invention? 2. In what respects do its various parts correspond with those of its prototype? 3. What is the use of the capital? the architrave? the cornice? 4. In which orders does a base form an essential feature? in which not? 5. State the general proportions of the Greek orders of architecture. 6. Which is the essentially distinctive feature of an order? 7. How many orders were there in Roman architecture? 8. In what respects does the Greek or Roman division of the orders approach nearest to the obvious classification of physical distinctions, or to the relative proportions generally admitted to exist in all objects throughout nature? 9. Should the axis of the column according to the Greek canons be vertical or not? 10. Quote the authorities, whether in writers or examples. 11. Sketch a profile of the Doric capital and the several varieties of anulets. 12. Sketch the varieties of triglyph heads. 13. Sketch and describe the essential differences in the entablatures of the Greek orders. 14. In what examples of Greek Doric buildings are the tryglyphs omitted? How are the guttæ of the frieze then arranged? 15. Sketch various forms of guttæ. 16. What do the antæ of Greek architecture represent, and where are they introduced, and what proportions? 17. Sketch the capitals of the antæ of the Greek orders. 18. Did any and what difference exist in those of Græcia propria and Asiatic Greece? 19. State the reasons for considering whether sculpture be or be not an essential element of Greek edifices. 20. To whom does Vitruvius attribute the invention of the Corinthian capital, and on what occasion? 21. Is there any complete example of Greek Corinthian, and where? 22. Was the Corinthian, Ionic, or the Doric introduced or adopted as the leading order of any principal monuments in Græcia propria? 23. Which was the prevailing order in Asiatic Greece? 24. Give the names and state the orders of the most distinguished temples of European and Asiatic Greece. 25. Into how many classes may mouldings be divided? State the names of the divisions. 26. Draw the profiles of the first class with the names attached. 27. What is the purpose of the crowning mouldings in cornices? 28. What is their usual angle of inclination in Greek buildings? 29. Draw combinations of mouldings. 30. Which were the usual crowning mouldings of the cornice of the Greek orders? 31. Was there any moulding peculiar to the Greek Doric and never used in any other order? 32. Give the name and varieties of profile. 33. Under which class does it come? 34. In which periods of the art were mouldings sparingly and profusely used? 35. Should mouldings or plain faces predominate, and why? 36. Draw some of the sculptured decorations of mouldings with the names attached. 37. Sketch a plan of a Greek decastyle hypethral pseudo-dipteral temple, with the names of the parts attached.

Egyptian Architecture.

38. Which are the earliest specimens of Egyptian architecture? 39. What are the general characteristics of Egyptian architecture? 40. Whence is their general impress derived? 41. Is it varied or uniform? 42. State the reasons. 43. Sketch a plan of one of the temples at Thebes. 44. Give a general description of the parts, and describe its chief accompaniments. 45. Into how many divisions may be classified the capitals of their columns? 46. Give a sketch of two columns of different characters. 47. State the proportions. 48. Sketch and describe the proportions of an obelisk and its pyramidion; its material. 49. Illustrate the value in which obelisks were held by the anecdote related by Herodotus. 50. Describe the influences exercised by the conquerors of Egypt upon its architecture. 51. State the nations by whom Egypt was subjugated, and the periods of conquest. 52. Enumerate the leading works on Egyptian architecture.

Second Year.

Medieval Architecture.

I. At what period and by what Emperor was the Christian faith adopted as the religion of the Roman state? 2. What religious edifices did he construct for divine worship? 3 When were they erected? In what form? 4. Give a general plan of one of the primitive Christian churches, with the names of the several parts attached. 5. Describe the purpose or destination of each part. 6. Had the position of these early churches originally any reference to the cardinal points? 7. State the origin of the term Byzantine, and describe the characteristics of that style of architecture. 8. Give a plan of certain ancient Byzantine churches at Constantinople and Ravenna. 9. Give a plan and section of a Greek church at Athens. 10. Sketch the varieties in the cruciform plan adopted in the Christian churches. 11. By whom were baptistries first built? Enumerate the most celebrated ones. 12. Give plans of some, and state their relative position in regard to the church to which they belonged. 13. Give a plan of the baptistery and Church at Parenzo in Istria. 14. With what previous style is Norman identical, and in what respects? 15. What is the distinctly different feature which prevailed in the Norman and preceding style, as contrasted with that of the subsequent styles of mediæval art? 16. Sketch the varieties of the Norman arch. 17. Give the profiles of the mouldings, plans of columns, elevations of caps and bases. 18. Sketch windows with single or double lights. 19. Sketch an elevation and section of a Norman buttress. 20. What was the general form of the altar end of a Norman church, and how called? 21. Sketch the primitive form of a Norman church generally prevalent in England. 22. Give the names of succeeding Gothic styles in this country, and dates of duration. 23. Sketch the forms of arch prevalent in each style, and the varieties in the arch of each epoch. 24. Whence may it be supposed that we derive the pointed arch? why? and at what period? 25. State some of the theories of the origin of the pointed arch. 26. Were the caps and bases of the lancet circular or polygonal in plan? 27. Of what material were the columns? and why? 28. Sketch elevation and section of buttresses; and in what particular did the lancet buttress present a character essentially different from that of the preceding style? 29. When did the succeeding style commence and finish? and state the origin of the name given to it by Rickman. 30. What is the peculiarity of the door at this period? Sketch one. 31. What peculiarity in the tracery of the windows? 32. Name the different parts of the tracery, and notice any peculiarities in the transoms of the windows. 33. What crowning enrichment exists in the cornice of the later periods, and in what respects does it correspond with a like feature in classic architecture? 34. In what parts were heraldic embellishments introduced, and when? 35. State instances of heraldic punning in gothic architecture. 36. Sketch different forms of shields in the order of their respective epochs. 37. Give a plan of a gothic cathedral, with the names of the parts attached. 38. Sketch plans and sections of gothic vaultings. 39. Define the different features and parts of arch-vaultings, and the classes of ribs. 40. What is the difference between a groin and a rib? 41. Name distinguished instances of vaultings. 42. Give a brief notice of mediæval architecture in Italy, and compare it in its progress and results with the architecture of northern Europe during the same period. 43. Lay down the general principles of composition as taught by Durand. 44. Name the most eminent authors on architecture, classified according to the subjects on which they treated. 45. State the qualifications and studies to be acquired by the architect. 46. Give a tabular view of the history of architecture from the earliest periods.

New Surveyor of the District of St. James's.—Mr. Charles Mayhew has been unanimously elected to the above appointment, rendered vacant by the death of his father. We feel much pleasure in being able to congratulate him not only upon his success, but also upon the good feeling displayed on this occasion by his professional brethren in not offering an opposition.

STIR IN THE SCHOOL OF DESIGN.

The disorganized state of the School of Design, to which we have been forced to direct attention on several occasions, has been recently mentioned in the House of Commons.

Mr. Ewart, a few nights since, referring to the dispute which occurred in the School of Design, and which had resulted, he said, in the dismissal of the second master, and the withdrawal of the pupils almost without exception, wished to know whether the discord still continued, or whether there was any hope of its being settled?

Sir G. Clerk said, "a difference of opinion unfortunately arose in the early part of this year between the director of the school and some of the masters regarding the principles upon which the education of the pupils should be conducted. Several of the students joined warmly on the side of the master, and expressed themselves disrespectfully of the character and attainments of the director. The council, considering this to be a gross act of insubordination, felt it to be their painful duty to interfere, by suspending the pupils who had so erred until they made an apology. The disagreement still continuing, the council felt themselves under the necessity of changing the second master; who had accordingly been he would not say dismissed, but removed."

The question now is, how will this step operate as regards the state of things between the pupils and the director, and between the public and the school? Will it restore to this gentleman the confidence of the pupils which unfortunately he seems by some means or other to have lost? We are afraid not, any more than it will make a bad system a good one. The school as at present conducted does not produce such results as are looked for, and some alteration is unquestionably necessary. We have received a number of letters on the subject, mostly, it must be observed, from the students who objected to Mr. Wilson's system. Although *ex parte*, we insert two of them, in order that the complainants, and as it has proved, the sufferers, may state their own views:—

Sir,—Seeing in your columns a short time since, comments on the "School of Design," I beg to offer a few remarks, tending to shew, if, indeed, it can be more clearly shewn, the total inadequacy of the system pursued there to produce any thing above an humble class of copyists.

A defect which, in my opinion, lies at the root of the plan is, that no instruction whatever is given in the characteristics of the different styles. When the student enters, he is set to copy indiscriminately a number of casts and other examples, and having, I suppose, obtained a stock of ideas by this means, without any other preparation, he proceeds to "design," or, in other words, to produce a hotch-potch, having a portion of the forms of every, without the spirit of any, style.

This is what we should be led to expect, and this really is the exact character of the tawdry and frigid *soi disant* designs that are the only productions of the school. But what else could we expect of an institution where nature, the great storehouse of the beautiful, is entirely neglected; where the study of the human figure is suspended and interrupted; where the art of perspective is unknown; where the different styles of art and their respective characters are unexplained, and where even the library is fettered by such restrictions, that very few students can have access to it?

The difference between us and foreign designers is essentially this,—that while they produce real artists, we produce nothing more than partially instructed, half-formed draughtsmen. In fact, now that the only students of promise that the school could boast have been expelled, there is none at present designing or even attempting to design. The School of Design at present is nothing more than a cheap drawing school.

Casts and examples are certainly copied, but as the only end of this copying is to acquire mechanical dexterity, and as the peculiar beauties or defects of none are pointed out, Government might as well have provided bad casts as fine ones at such an expense.

Copies of Raphael's performances are to be found there, and give a pretty appearance to the room, but the grand principles of colouring upon which Raphael laboured are neither

explained nor exemplified: his peculiarities, his manner, his beauties, the student is left in ignorance of.—I am, Sir, &c., H. J. L.

The other writer says:—

Sir,—In your paper of the 21st inst. is inserted a letter upon the School of Design, many of the views contained in which are so thoroughly sound and practical, and much of the criticism so perfectly just, that I trust you will allow me to correct a few mistakes into which the writer has been led, by his being perhaps but a casual visitor at the school.

Your correspondent says very justly, that the conducting such a school would be a fit task for an artist of some twenty or thirty years standing, an assertion the truth of which no one can doubt. As a proof that the council really are of opinion that "with the various examples in the school any man may play the master," allow me to state, that the gentleman whom they have appointed director with a salary of 400*l.* per annum, is practically ignorant of design.

The writer's *ironical* praise is very just, but it is too bad to place the faults of others upon the back of the council, particularly as they have been recently filling up the measure of their mismanagement themselves; how can any persons, for instance, doubt their just appreciation of the talents necessary for a teacher, when they are told that the council have just dismissed Mr. Herbert, A.R.A., the late master of the figure class, and sub-director, under the plea that he is *too efficient*, and have lowered the salary attaching to that office, in order to insure a less efficient successor? Yet such is the case. In speaking of the students in the last portion of his letter, he is mistaken in calling the paintings, from which they are in the habit of copying, frescoes; they are copies in tempera from the arabesques of Raphael in the Loggia of the Vatican.

Now, Sir, such is the state of dissatisfaction on the part of the students, and of mismanagement on the part of the council, that three months since, all the students in the upper classes of the school felt it necessary to petition the council for a redress of their grievances; that the system laid down by the council in their report might be carried out, and that the instruction there promised might be given: for doing this the students were immediately suspended, and although they laid before the council a series of depositions proving their grievances, still no notice was taken of their complaints; until at last, without any inquiry into the truth or falsehood of the statements advanced by the students, the council issued a notice stating that they would not be re-admitted to the school without indiyidually apologizing to the director for their conduct: thus placing their necks under the feet of the individual of whom they complain.—I am, Sir, &c., Philo-Alpha.

An inquiry into the results of the system pursued should at once be made, or we may go on spending money and have nothing but disappointment for our pains.

THE PATENT FIRE-PREVENTIVE PLASTER.

In reply to an inquiry made by a correspondent last week, for an incombustible substance to be used instead of common plaster, we have received a description of the "fire-preventive plaster," for which patents have been obtained for England, Ireland, Scotland, and the colonies. It is asserted that perfect security from fire may be attained at a moderate cost by coating the timbers and floors with a thin stratum of the composition, in place of the ordinary lime plaster on the lathing of the ceilings and partitions. The composition is susceptible of all the ornamental forms of cornices and mouldings to which plaster, stucco, or carved wood-work are usually applied, and is capable of a fine polish, and may be painted. The works are in Upper Ground-street, Blackfriars Bridge.

A correspondent, who dates from Kensington, suggests that slate fixed to the underside of the joists to form a ceiling, would tend to prevent the spread of fire.

The New Paddington Hospital.—The first stone of the new hospital (near the Great Western Railway Station) was laid on Saturday last by his Royal Highness Prince Albert.

OSMASTON CHURCH, DERBYSHIRE.

The newly-erected church at Osmaston, near Ashborne, was consecrated, agreeably to public announcement, by the Lord Bishop of Lichfield, on Friday, the 27th ult. This edifice, of which the first stone was laid on the 8th June, 1843, has been built at the expense of Francis Wright, Esq. (of Lenton, near Nottingham), and will cost, when completed, eight or nine thousand pounds. Mr. H. J. Stevens, of Derby, was the architect; Mr. William Evans, of Ellastone, was the builder.

We obtain the following account of the old and new structure from the *Derby Mercury*:—

"To satisfy the archæologist and antiquarian, it may be as well to preface our description of the new church by stating that the ancient structure, which was dedicated to St. Martin, and stood a few yards to the southward of the present building, did not contain any interesting features, either in form or detail; a very early date may be assigned to the original foundation of the church, and if the name of the village denotes clearly its Saxon origin, we may venture to imagine that a church might even have existed in that remote period. The old walls, however, exhibited no peculiar construction, or style of ornament, and the greater part were evidently of a comparatively recent date; some very unsightly modern addition had been made some years since for the purpose of increasing the accommodation, but it was found to be still insufficient, and thoroughly inconvenient in arrangement. It was much out of repair, and therefore beyond its doubtful antiquity (which was much more than counterbalanced by its want of beauty), no good cause could be shewn why the liberal intentions of the founders of the new church should not be carried into effect—and the work of demolition commenced, and was carried on without regret; but, on the contrary, with confident expectation on the part of the parishioners that the latter house would greatly exceed the former house in convenience and beauty.

The old font, which is still preserved in the churchyard, as a memorial of the past, is so much decayed that little more than its octagonal form can be ascertained, and that it was probably of late perpendicular character.

The new building is situated nearly in the centre of the ancient and unusually picturesque churchyard, in which some venerable yews and Scotch firs contribute largely to the general effect. The churchyard has been inclosed by a low lime-stone wall, which, from being only slightly raised above the level of the ground within the inclosure, and just affording a sufficient protection from the road, has the appearance of a substantial broad base to the church.

It is evident, from a general view of the structure, that the prevailing idea which the founders and their architect sought to carry out, were the principles adopted by our forefathers in the construction of the numerous village churches which form so many bright spots in this our beautiful country. It consists of a nave, ailses, chancel, west tower, south porch, and vestry; the material employed for the main portion of the external walls is the mountain lime-stone, from the property of Sir Henry Fitz Herbert, near Tissington, and free-stone from the quarries at Stanton, near Ashbourn, is used for the windows, doors, buttresses, and all moulded and ornamental portions of the building. The fine dark grey of the former is agreeably contrasted with the light tint of the latter, and is in excellent harmony with the grassy carpet of the churchyard, and the deep tones of the old trees. Black Westmoreland slates are used for the covering of the nave, chancel, porch, and vestry, the roofs of which are high pitched, with free-stone ridges. The aisles and tower are covered with lead. The general architectural character of the building and detail is the late decorated, or that style as it prevailed in this country during the middle of the fourteenth century. The whole building stands upon a bold, double-weathered base, with the addition of an extra base moulding in the tower. The aisles are divided by strong buttresses into four compartments. The principal entrance door occupies the westernmost division on the south side; the other three, the two central ones on the north side, and the east end of the south aisle, are pierced by three-light windows, the west ends of both aisles by two lights, the heads of which are filled by elaborate tracery of varied design. The walls of the aisles are not more than 16 feet high, and are crowned by a low parapet. In the cornice immediately over each buttress, which are double at the angles, carved heads have been introduced, in some of which we recognize likenesses of the reigning sovereign, Prince Albert, the Archbishop of Canterbury, &c.

The quadripartite arrangement of the aisles is continued through the nave, which has a low clerestory, pierced on each side by square-headed windows of two lights and trifoliated heads. Instead of a parapet to the nave, a bold cornice is introduced, with carved pateræ at close intervals in the hollow of the same, and the spout is formed in the upper member.

The walls of the chancel are 18 feet high with cornice and spout of similar character to that of the nave; the east end is pierced by a large four-light window, with flowing tracery in the head; the south front is divided into three compartments by bold buttresses, sloped at the first stages, and terminated at the line of the eaves cornice by weathered hoods, with crockets and finials, and deeply sunk trefoil in the face; each division and that nearest the east end on the north front, is pierced by two-light windows, the mouldings and design of which as well as the east window, being of a more elaborate character than other parts of the church.

The tower is entirely disengaged from the nave and aisles, and is in three stages, and 69 feet high to the top of parapet; there is a low door on the west front for access to belfry, a three-lighted window over the same in the lowest stage, a circular dial carved in stone, on the south side—in the second—and a double two-lighted window, on each face of the upper stage; these windows are bold in character, and the slopes of the sills acute: the divisions of the stages are marked by free stone strings, and weatherings, which reduce the width of the tower at the upper part; there are double rectangular buttresses at the angles, and a partially engaged octangular stair turret at the north-west angle; the former are terminated by crocketted pinnacles, the latter by piercings on four of its faces, which rise slightly above the tower—crocketted gables on each face, and a conical roof, crocketted on each angle, and crowned by a bold gilt vane. The parapet of the tower is pierced, and the panoramic view from the top is very extensive and comprises scenery of no ordinary beauty.

The porch has a bold doorway with shafts, carved capitals and the hollows filled with ball-flower ornament; angular buttresses with considerable projection, terminated above the coping by crocketted hoods; a cornice and eaves with carved pateræ, and an enriched finial at the apex of gable.

The vestry is octangular and connected with the north side of the chancel, and the east end of the north aisle by a porch, covered with lead, in which the door for the minister is fixed. There are two light windows in two of the faces and buttresses at each angle, terminated by sloped weatherings; the walls are crowned by a plain moulded cornice, and each angle of the conical roof is finished by a graduated moulding with large carved ornament at the apex.

Having completed our survey of the exterior, we will enter by the south porch, which is 10 feet long by 8 feet wide in the clear; each side is occupied by a stone seat, with four arched recesses over the same. The roof is entirely open, and consists of three main and two wall ribs of bold dimensions, springing from stone carved corbels in the spandrils of the arches. The entrance door is of oak, and derives its principal ornament from a pair of elaborately wrought-iron hinges, which nearly cover the door; lock, latches, handles, escutcheons, being all of massy and similar character.

On entering the church we are immediately struck by the substantial and durable character of the whole, not a bit of plaster or paint except what is necessary to preserve the iron work, can be seen—everything is real: the walls, windows, doors, piers, arches, are all dressed free stone—the ceiling of the tower is a stone groin, the roofs of the nave, aisles, and chancel are of the best picked pitch pine and boarded, the seats and fittings are all Norway oak, the floors of the aisles, the steps to the chancel, and other parts of the church

which are unoccupied by sittings, are laid with the best free stone, and by these circumstances and the unusual strength of material, a pleasing impression of solidity and stability is conveyed to the mind. As we have before described the windows in our external view, it will be unnecessary to add more than that a string course is continued under them throughout, that all angles of splays are finished by shafts, with bases and capitals or continuous mouldings, that as much variety of detail is introduced as possible, and that the tracery is filled with ornamental glazing. The nave is connected with the north and south aisles by clustered piers, each of a single stone, with elaborately moulded bases and capitals, from which and two attached piers at the east and west ends spring the arches supporting the clerestory walls. The roof of the aisles is flat pitched, divided into compartments, every part of which is accurately wrought and moulded, with characteristic stoppings. The roof of the nave has three main trusses, with arched and moulded springers, supported by corbels, carved with cherubim holding scrolls with the following inscription divided on the four of them:—Glory..to God..on earth..peace—the remainder bearing shields, with monogrammatic devices. Between each of the main trusses are two others, without the carved ribs, and wind braces are introduced between them and under the spars. The roof of the chancel is composed of a series of strong rafters, with carved braces under them, springing from wood corbels, on a continuous stone cornice, carved with the oak leaf, and continued over the head of the east window; every part of the roofs are wrought and moulded.

The east arch is supported on clustered engaged piers, of a similar character to those of the nave; the bold capitals are carved with delicate foliage, and the ball flower ornament is introduced within the hollow of the arch. The whole of the sittings in the nave and aisles are open, and are fixed level with the floor of the church. The ends of the seats are panelled with tracery heads, and have a very strong cap moulding, which is continued on the top of the backs of sittings.

The font, which is of Roche Abbey stone, is a large circular bowl, with a continuous lotus ornament on the upper part, standing on a single shaft, with a moulded base and capital, carved, with a similar ornament; it is placed immediately opposite the south entrance door.

The pulpit and desk are of oak, and are fixed together in the north-east angle of the nave; the desk has an open traceried front with double rectangular buttresses at the angles, terminated by carved canopies; the pulpit is arranged so as to be accessible either from the desk or the vestry, and is merely five faces of an octagon, the other faces being omitted for entrance; the whole is filled with panelled tracery, and the cornice under the book-board is carved with the vine leaf. The chancel is approached from the nave by two broad steps, an arcade with cinque foliated heads within the arches is formed in the wall under the windows; one compartment is returned on each side at the east end; the string course then rises to the underside of east window-sill, and inclosed two loftier arches, in which stone seats with plain elbows are fixed for the officiating ministers; the lower member forming the connection between the two seats is foliated, and a plain scroll with the words "This do in remembrance of me," carved upon it, is the only ornament behind the communion table, which is of solid oak carved with cherubs' heads at the angles, and is the gift of Mr. Johnson, one of the resident proprietors in the village. The floor of that part of the chancel in which the communion service is administered is laid down with oak framed in parquetry, and a massive kneeling rail of open tracery occupies a portion only of the front, allowing free access at the ends.

The entrance to the vestry is by a deeply recessed doorway, about the centre of the north side of the chancel; it is octangular, with a roof of strong moulded wood ribs springing from corbels in each angle, on which armorial bearings are extremely well carved in Caen stone—they consist of the arms of Edward III. the reigning sovereign, Archbishop, Bishop, Archdeacon Shirley, and the families of Beresford, Fitzherbert, and Wright. The fittings are all of oak, and the doors, both external and internal, are of the same material, and hung with floriated strap hinges, with other iron-work to correspond. Returning to the west end, we find the lower part of the tower open to the church, in which the west window has a very good effect. The accommodation for the children is provided in low oak seats, of similar character to the remainder; behind which, and under the tower, the choristers' seats are placed, the extreme back rising considerably higher than the remainder, forms a screen, and conceals the entrances to the belfry, &c. There were one or two small old bells in the former tower; they have been substituted by a fine peal of five, cast and fixed by Mears, of Whitechapel; a clock also is ordered, and there does not appear to be any thing forgotten which can conduce to the comfort and good feeling of the parishioners. We should state in conclusion, that the church is capable of accommodating the whole parish, and that its internal dimensions are as follows:—Nave, 46 feet long, 18 feet wide, 38 feet 6 inches high, to the point of roof; each aisle 46 feet long, 11 feet 10 inches wide, 16 feet 9 inches high to the highest part of roof; chancel, 28 feet long, 15 feet wide, 30 feet 3 inches high; tower, 14 feet square within, 26 feet high to the point of groin; vestry, 11 feet diameter, 22 feet 6 inches high to apex of roof; extreme length of church from east to west, 94 feet; extreme width of church from north to south, 45 feet 2 inches.

NEW CHURCH AT CLIFTON IN ASHBOURN.

The consecration of this church by the bishop of the diocese took place on the 25th ultimo. No time has been lost in its erection, for the first stone was only laid on the 4th of September last. The *Derby Mercury*, in describing the structure, says "It is exceedingly simple in plan, and the design evinces throughout a studious attention to economy. It consists of a nave 58 feet 6 inches long, 25 feet wide, south porch, and a vestry opposite the same on the north side, corresponding therewith. The style of the building is a transition from early English to decorated, and is built of Stanton stone. The external face is not worked with a tool, and has a substantial effect. The roof is high pitched, and covered with Newcastle tiles; there is an octangular bell turret constructed on the west gable with a conical roof and vane. The east gable has a floriated cross. There are two single-light windows in the west end, and the flanks are pierced by windows divided into two lights, by a bold mullion, the spandrils being filled in with trefoils and quatrefoils; the east window has three lights of bold character, similar to those on the sides. The jambs of the porch doorway have shafts with capitals and bases. There is nothing worthy peculiar notice in the interior, the limited funds not allowing much scope for architectural display. The roof is open, and has four main trusses of arched form, springing from stone corbels in the walls; the seats are low, open, and, as well as the roof, stained and varnished. The arrangement of the pulpit, reading desk, and communion rails, at the east end, is novel and satisfactory. The pulpit is of stone semi-hexagonal in form, and rests upon a low inverted pyramid. The faces are sunk, with shafts and trefoil heads. The ascent to the pulpit is by stone steps, constructed in a recess, the face of which next the church is formed by two pointed arches resting upon slender shafts. The font is of stone, and good dimensions, and all the other furniture of the church has been designed in a consistent style. An ancient chapel stood on the site of the present building, parts of its foundations are now remaining. The churchyard is well situated, and inclosed in a substantial manner by a stone wall."

The architect was Mr. Henry J. Stevens, the same gentleman who designed the church described in the preceding article. The works were executed by Messrs. John Wood and Edwin Thompson, of Derby.

Harris's Peridoneus.—Under this title is registered an admirable arrangement for binding temporarily the current numbers of periodical works, loose music, or MSS. The buyers of The Builder will find a *peridoneus* specially prepared for it at Kennett's in York-street.

SMOKE PROHIBITION BILL.

This bill has at length passed through the committee, but not without very considerable opposition. Mr. Vivian moved as an amendment that it should not comprehend the "furnace of any steam-engine employed in connection with any mine of coal, lime, ores, or minerals of any description whatsoever, or with any works for the smelting, refining, or manufacturing of any iron, copper, tin, lead, spelter, brass, or any other metal, or compound metal whatsoever, or with any coke or glass works."

The motion was lost by a large majority. Mr. Villiers then suggested that the amendment be restricted to steam-engines employed in mines of ores, leaving out the latter part of Mr. Vivian's amendment. This was also lost.

Mr. Ricardo then attempted to stay further progress for the present, but in this he was supported by only seven votes in a house consisting of sixty members.

Sir J. Graham said he had understood that the committee, after full consideration of the whole question, had come to the determination that stationary engines were only to be included in the bill. It was under this impression that he had voted against the amendment. Mr. Hawes said the bill in question was almost unanimously agreed to by the committee. Mr. Williams said experiments had been tried in Leeds and various places, and the full consumption of smoke had been ascertained to be completely practicable. The experiment had also been tried at the dockyards, and had been attended with complete success. With these facts in existence, he was astonished at the opposition which the hon. member had made.

Mr. Hawes moved an exemption in favour of buildings under the survey of the excise, but without effect.

On the motion to bring up the report, Alderman Copeland stated that if the bill passed into a law, he must shut up works, and and turn 1,000 men out of employment.

PROTECTION OF LIFE FROM FIRE.

Mr. D. W. Wire, in presenting a petition a few days since to the Court of Common Council from the Royal Society for the Protection of Life from Fire, took occasion to state, that the plans upon which their fire-escapes were constructed had proved more efficacious than any hitherto acted upon or suggested, and that within the last year the lives of ten of our fellow-creatures had been saved by the use of the machines of the society.

Mr. Lott was desirous to know why the three machines which were constructed upon one of those plans, and which were deposited in the Guildhall to be used by the police, were not now in operation?

Alderman Wood said, that of all the plans of fire-escape, there was but one of practical utility, and that was the canvas escape, one of which description of machine had been sent to almost every station-house in the city. But there was no established body appointed to apply them in cases of emergency, or to keep them in a state of preparation. It would be most desirable that they should be in the hands and under the control of the police, but the commissioner could not apply the public money, under the Act of Parliament, to such a purpose.

Mr. R. Taylor could not very clearly see how the court were justified in placing implicit reliance upon the conduct of the Voluntary Society which had thus petitioned the court. They designated themselves a royal society, but he could not see what reliance was to be placed upon their stability. He was convinced that the care and management should be in the power of the police, or a body constituted as the police were.

THE DRESDEN GALLERY.

Treasure of atoms of great souls translated,
Sparks of an inextinguishable fire
Erst in the upward struggle scintillated;
Relicts bequeathed to comfort and inspire
The future earth-worm straining to be higher,
Beautiful emblemations of high thought
Prisoned for centuries in dense attire,
Glimpses in heavenward flight by genius caught,
To thousands aye unknown, if not to vision brought.

J. Ellis,

NOTES FROM THE PROVINCES.

The first stone of the Manchester Collegiate School was laid on the 19th ultimo by J. C. Harter, Esq., in the presence of a very large number of the clergy of the established church, at the head of whom was the Rev. C. D. Wray, the vice dean. The direct object in view is to provide classical education for the sons of small tradesmen at a cheap rate.——During the past week, the last great blast of the cliffs for the purposes of the South Devon Railway took place at the end of the long tunnel, near the Parson and Clerk rock, Dawlish. It was arranged in two series of blasts, consisting of eight and eleven charges of powder respectively, and was intended to displace the large mass of rocky cliff immediately before the entrance of the tunnel. The enormous quantity of 42 cwt. of gunpowder was used, and the two largest charges contained 1000 lbs. of powder in each. The whole was under the direction of Mr. W. Glennie, the surveyor, assisted by Mr. Dawson, and proved eminently successful.——The Duke of Norfolk's patrimonial seat, Arundel Castle, is undergoing great improvements and embellishments, by direction of his grace, who is negotiating with the town council for the exchange of Brooklands, which the noble duke is understood to be desirous of adding to the Arundel estate.——Stevenstone, the ancient seat of Lord Rolle, is now undergoing considerable repairs by order of the trustees of the late lord. The interior of this fine old mansion, and the noble stabling, are to be put in order and painted, as well as new stabling erected—it is to be thoroughly restored to its best state and appearance, and the outlay will be considerable.——Thirlstane House is undergoing a further enlargement, by the addition of a second wing, corresponding in every respect with that erected by Lord Northwick some three or four years ago, and forming the present picture-gallery, to which purpose the new building, when complete, will also be appropriated. So extensive has the Thirlestane House collection of paintings become, that the present apartments, though forming one of the noblest suite of rooms devoted to the fine arts of which the country can boast, are found wholly inadequate to the reception of the many valuable additions which their noble owner is constantly making, and which, for want of wall-room whereon to hang them, are obliged to be ranged on the floors, or on temporary frames constructed for their reception. The new gallery will, however, in a great measure, remedy this inconvenience, by placing at his lordship's disposal a space equal to the exhibition of at least 300 or 400 pictures.——Mrs. and Miss Saunders are spoken of as likely to have the honour of laying the foundation stones of two new churches, to be erected at Morton and East Stockwith. The ceremony it is understood, will be performed in a few days. ——The new Custom House, at Ipswich, being finished, the local authorities have determined upon commemorating the ceremony of the opening by a public dinner, to take place early in July. The suggestion eminated from the architect, Mr. J. M. Clark, and was instantly adopted by the mayor and town council. ——The Weston-super-Mare Pier Company having recently purchased the island of Birnbeck, they propose annexing it to the main land by means of a suspension bridge, to be constructed on Mr. Dredge's principle. It has also been proposed to approach the island by means of a roadway, formed of loose stones at the base, with a crown on top of solid masonry. Mr. Dredge has furnished the committee with several designs for the suspension-bridge. The first represents the elevations and sections of the bridge; the second the details of construction; and the third, a perspective view as seen from the cliff. The whole length to be crossed is about 1,400 feet; of this he proposes that about 1,100 feet should be accomplished by means of the bridge, to be composed of iron, the central span of which would be 545 feet, and the outside openings 272 feet. The remaining 300 feet he proposes should be of solid masonry. The height of the towers above the roadway is intended to be 42 feet.——Upwards of 4,000*l.* has been subscribed in Burnley in less than two days for the erection of a Mechanics' Institution, including library, reading-room, museum, news-room, and lecture-hall.

COUNTY OF SOMERSET LUNATIC ASYLUM.

The following are the tenders which were delivered at Bridgwater on the 30th ult. for the erection of the new asylum at Wells:—

Lock and Nesham, London....	£39,989
Wiseland, do.	37,447
Stockholm, Bridgwater	34,050
Browne, Frome	33,786
Davis, Longport	33,600
Lewis, Bath	32,990
Davis, Frome	32,932
Stent, Warminster	32,740
Sissons, Hull	32,480
Kirk, Sleaford	30,800

The lowest was accepted.

Correspondence.

SUSPENSION BRIDGES.

Sir,—Mr. Dredge seems to be labouring under some error in his communication to your journal of last week relative to the nature of the accidents at Derby and Ashton-under-Lyne, which were not occasioned by erroneous principles of construction. The former, I believe, originated in consequence of the centres having been struck too early as from the extreme wetness of the season the mortar had not become sufficiently indurated, the latter from defective workmanship in the piers. In the event of a failure, from defective workmanship or other causes, in the piers or towers of a suspension bridge, even on Mr. Dredge's principles, I am inclined to think it would be fatal to the structure. Notwithstanding the beautiful aerial appearance of suspension bridges suitable for some situations, I am very much in favour of bridges of fixed principles for heavy, general traffic, where great strength and durability are required. If suspension bridges are so "*perfectly quiescent*," as Mr. Dredge would wish us to suppose, why are they not adapted on railways, where lightness and economy of construction are considered so essential?

I am, Sir, &c.,
Brecon, South Wales, B. B.
June 25, 1845.

Miscellanea.

Fall of Houses in Wellclose-square.—On Sunday morning last about 3 o'clock, the premises in the possession of the Rev. Mr. Smith, 17, Wellclose-square, and which were occupied as a Mariners' Church and Sailors' Orphan Asylum, together with a public-house known as the Mahogany Bar, and the upper part of the adjoining premises, fell with a tremendous crash. It is stated that some months since, when a saloon at the rear of the public-house was being built, an excavation was made for a cesspool, and that several alterations affecting the stability of the same premises were also made. These facts, together with the dilapidated state of the buildings, afford a reasonable solution of the cause of the accident, although the immediate cause is stated to be the removal of the floor of the church. Most fortunately, all the inmates escaped unhurt.

Enlargement of Newgate Market.—A long discussion took place last week in the Court of Common Council on the enlargement of Newgate Market, as recommended by the Markets Committee in their report then presented. Mr. W. Jones, the chairman of the committee, informed the court, in calling their attention to the report, that the limit of the amount which might be required to enlarge the market was 60,000*l.* The report was ultimately referred back to the committee with instructions to report the present area of Newgate Market, the space proposed to be added, the sum estimated to be expended, and the plan of the building intended to be erected.

Light for all Nations.—A few days since Admiral Dundas presented a petition to the House of Commons from Mr. Bush, stating that he had constructed a column on the Godwin Sands, and praying that the work might be inspected by a scientific engineer, with the view of erecting a light-house and fortifications for the protection of the trade in the Downs. It was referred to the committee on light-houses.

Statue of James II. in Whitehall Gardens.—The doubt which has long prevailed respecting the artist of this statue has recently been cleared up by the appearance of a work entitled "The Autobiography of Sir John Bramston," printed by the Camden Society. The passage is as follows:—"On New Year's day, 1686, a statue in brass was to be seen (placed the day before), in the yard at Whitehall, made by Gibbons, at the charge of Toby Rustick, of the present King, James II." It thus turns out that Walpole had a correct impression of the truth when he wrote "I am the rather inclined to attribute the statue at Whitehall to Gibbons, because I know no other artist of that time capable of it."

Bristol Academy of Fine Arts.—The works of art now exhibiting at the institution in Park-street consist for the most part of pictures known to London eyes. Uwins, Hart, E. Landseer, Martin, Severn, and Pyne, have contributed some of their productions, and although not so striking a collection as might be desired, is nevertheless tolerably satisfactory. Among the local artists we must mention especially, Mr. Hewitt, whose landscapes are exceedingly beautiful, and Mr. J. Fisher, who exhibits some excellent minatures. An Art-Union has been formed in connection with the exhibition.

Antiquity of Chimneys and Smoke-Jacks. — Mr. Jopling, in a letter to the editor of the *Mechanics' Magazine*, says, "when I wrote the description of 'Smith's metallic lining for chimneys,' fifteen years ago, I made research as to the antiquity of chimneys. The oldest certain act I found to be 1347, and it is conjectured they were invented in Italy. 'Smoke jacks,' which must have been invented subsequently to chimneys, are supposed to be of German origin, and from a painting which is known to be older than 1350, it is supposed they were in use before that period."

Institute of the Fine Arts.—On Saturday last the first general meeting and conversazione of the institute was held at Willis's Rooms, St. James's, and was well attended. There was an admirable collection of pictures, bronzes, and other works of art. It is gratifying to observe, that the institute is advancing very favourably notwithstanding the shyness with which it was at first regarded by the chiefs of the profession, and that it promises to aid materially in advancing the social position of artists.

NOTICES OF CONTRACTS.

[We are compelled by the interference of the Stamp Office to omit the names of the parties to whom tenders, &c., are to be addressed. For the convenience of our readers however, they are entered in a book, and may be seen on application at the office of "The Builder," 2, York-street, Covent-garden.]

For the Removal of several Wrecks in the Thames.

For the supply and erection of a Steam Cooking Apparatus at the New Workhouse at Cuckfield. To be capable of cooking food for 450 inmates, and providing Hot and Cold Water in the Scullery, Bath-rooms, and Wash-house, with a Closet for drying linen.

For furnishing and fixing an Engine Pump at the Sevenoaks Union.

For Building Sewers from Bloomsbury-street, Holborn, the length being about 3,400 feet; also in Gray's-Inn Lane, the length being about 800 feet.

For Building a New Farm-house at Swavesey, Cambridgeshire.

For 500 Tons of Guernsey Granite Lumps for breaking, and also for such further quantities as may be required previous to the 29th of September next, by the Guardians of the Poplar Union.

For 1,000 Tons of Scotch Pig Iron, and 500 Tons of Finers' Metal, to be delivered at Rotterdam in the months of July, August, and September.

For Building a New Church of Kentish Rag Stone and Caen Stone at Homerton (time extended).

For the execution of the Works necessary in the Extension of the Towing-path of the Regent's Canal, near the Hampstead Road Lock, St. Pancras.

For the Construction of a Shed at the Dock at Ratcliffe, for the Regent's Canal Company.

For the Erection of Two Cast Iron Bridges, one of 80 feet span, the other of 45 feet span, near the Hampstead Road Lock of the Regent's Canal Company.

For the pulling down the present School House and erecting a new one at Chesterfield, Derbyshire.

For Supplying the East-India Company with British Iron.

For Lighting the town of Devonport with Gas for a term of fourteen years, to commence from the 1st day of October next.

APPROACHING SALES OF WOOD, &c.

BY AUCTION.

At the Crown and Anchor Inn, Ipswich: the Martello Tower, situated on the point of Bawdsey, Suffolk. The materials arising therefrom could at a trifling expense be conveyed to any part of the kingdom.

In Shirley Park, near Croydon: 2,000 straight Poles, and 8,000 Bavins, Fir, Oak, Elm, Chesnut, and Alder, but principally Larch of 35 years' growth.

At Cottered Warren, Hertfordshire: 500 Prime Oak Timber Trees, and a few very large Oak Pollards, &c.

At Mrs. Wragg's Navigation Inn, Osmaston: a quantity of Timber, of good size and quality, consisting of Oak, Ash, Elm, &c.

At the Windmill Inn, South Hanningfield: 144 Oak, 60 Ash, and 20 Elm Timber Trees; also 20 Whips.

At Dockhead, Bermondsey: a valuable and extensive assortment of Yellow Battens, Spruce Deals and Planks, Yellow White Pine, and Geffle Deals and Ends, from 6 feet to 21 feet.

TO CORRESPONDENTS.

"G. R. F." *has our best thanks, although we were unable to avail ourselves of the MS.*

"D. M." (Exeter). — *We shall be glad to receive the account offered, but cannot undertake the expense of an engraving.*

"F. T."—*We regret that we cannot avail ourselves of the MS. sent. It shall be returned by post on receiving a request to that effect. Even as a voluntary contribution we could not insert the whole of it. As regards Maude's cement, obligingly named in second letter, we have not had sufficient experience of it to warrant unqualified praise.*

"J. S."—*We should probably mislead our correspondent by replying to his inquiry without seeing the premises. He can reinstate the boarding a piece at a time without difficulty.*

"Querente," *suggests that we should publish the answers to the two series of questions which formed the architectural examination at University College. This would be to write a large book. There are many points in them on which we should be glad to receive communications.*

"H. T." Plasterer. — *We regret that our arrangements will not permit us at this time to give the diagram he requires.*

"W. G. P." (Blackheath.) — *The district surveyor named seems bent on rendering himself and his office unpopular. We do not wish, however, to appear too severe.*

"A. D." "Amateur." "P. P." "Strict." — *Our kind correspondents should bear in mind that, as we have before said, we have more than one class of readers to consider. They would be satisfied of this if they were to see each other's letters even in the present case.*

"W. A." (Yorkshire.) — *The importance of a good school cannot be over-rated. Such an education as our correspondent wisely proposes for his son would fit him to take a good place in the profession and the world. We are unable conscientiously to name a school at this moment, but will inquire.*

"Mr. Wood."—*A parcel is left at the office: it shall be forwarded if Mr. W. will oblige us with his address. Many apologies are due to him.*

"T. L."—*Cooper and Son, founders, of Drury-lane, may be depended on for the iron girders required, and will afford every information.*

"A. R." (Pimlico.)—*If we mistake not, an engraving has already appeared elsewhere of the column sent.*

"E. S."—*We should be glad to insert a representation of the new front, but think that the drawing sent is hardly effective enough. It is left at the office with many thanks.*

"J. C." *complains with justice that few recent architectural works are to be found at the British Museum. By sending a list, as he proposes to Sir Henry Ellis, the principal officer, attention will be drawn to the circumstance in the proper quarter. It cannot be denied that the regulations in force press heavily on architectural authors, nor wondered at that they are evaded where evasion is possible.*

"J. E. G."—*We have several fonts in hand at this moment, and cannot promise immediate attention to the specimen sent. With our correspondent's leave, we will retain it a short time.*

"B. Green."—*We are disposed to engrave the diagram sent, but cannot speak positively at present.*

"Veritas," "B. B.," *and* "C. Mallet" *next week.*

ADVERTISEMENTS.

ATMOSPHERIC RAILWAY, Daily at Work, carrying visiters, at the ROYAL POLYTECHNIC INSTITUTION. This interesting Model is lectured on by Professor Bachhoffner at One o'clock daily; also on the evenings of Tuesdays and Thursdays at Nine o'clock. The working of the Model always follows the Lecture. It is also worked at Four o'clock, and at other convenient times. All the other interesting Works and popular Lectures as usual. Admission, 1s.; Schools, half-price.

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N.B.—Asphalte supplied to Railway Contractors and Builders in ½ cwt. Blocks, for convenient conveyance to all parts of the United Kingdom, at 45s. per ton.

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